

A NEW PERSPECTIVE ON THE ROLE OF INTANGIBLE RESOURCES IN  
BUSINESS STRATEGY

by

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## ABSTRACT

This study is concerned with the role of intangible resources in business strategy. Intangible resources range from intellectual property rights, through contracts and databases, to the more subjective, or "people dependent" factors of reputation and know-how.

Sustainable competitive advantage results from the possession of relevant capability differentials. Regulatory and positional capabilities are concerned with assets, such as patents, or reputation; functional and cultural capabilities are concerned with competencies, such as speedy response to customer demand, or the ability of the organisation as a whole to cope with change.

The theoretical part of this study is concerned with identifying the nature and characteristics of intangible resources, and with the development of a framework which links the different kinds of intangible resource to the four capabilities. This framework is used as the basis of a new technique which aims to identify the relative contribution which intangible resources make to competitive advantage. In order to place this analysis technique in context a review of the strategic management literature was carried out.

The empirical part of this study comprised structured surveys of chief executives, specifically: a pilot postal survey, a national postal survey, and six case studies.

The main finding of the postal surveys was that the intangible resources which make the most important contribution

to business success are reputation, employee know-how and organisational culture.

The main finding of the case studies was that the framework linking intangible resources to the four capabilities does provide a new perspective for viewing the role of intangibles, and it can be a useful aid to facilitate communications.

The major contribution to knowledge claimed for this study is that of treating the issue of intangible resources as a coherent subject; it is hoped that the study will provide a new perspective with which both academics, and practising managers, can view strategic issues.



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# A NEW PERSPECTIVE ON THE ROLE OF INTANGIBLE RESOURCES IN BUSINESS STRATEGY

## PART ONE - THE THEORETICAL WORK

### CHAPTER 1 INTRODUCTION

#### 1.1 INTANGIBLE RESOURCES AND STRATEGIC MANAGEMENT

This research study is concerned with the strategic management process; in particular it is concerned with identifying the intangible sources of sustainable competitive advantage.

The expression "intangible resources" is not an expression in common use; for the purposes of this research programme it is used to describe the following:

- \* the intellectual property rights of patents, trademarks, copyright and registered designs.
- \* trade secrets.
- \* contracts and licences.
- \* databases.
- \* information in the public domain.
- \* personal and organisational networks.
- \* the know-how of employees, professional advisers, suppliers and distributors.
- \* the reputation of products and company.
- \* the culture of the organisation; e.g. the ability of the organisation to react to challenge, to cope with change etc.

A case will be argued for a new perspective in the management of corporate affairs. The importance of reputation,

know-how etc. is readily acknowledged; but until recently there has been little attempt to identify, and give structure to, the nature and role of intangible resources in the strategic management of a business. This is partly due to the fact that it is often very difficult for accountants and economists to allocate an orthodox valuation to intangibles as they rarely have an exchange value; in consequence they usually lie outside the province of the commodity based models of economics and accountancy. It is also the case that until recently intangible resources have not been treated as a coherent subject with an identifiable taxonomy. This work sets out to demonstrate:

- That intangible resources make an important, often the most important, contribution to business success.
- That the research, teaching and practice of the strategic management process need more formal, developed and tested techniques for analysing and understanding, this contribution.
- That a taxonomy of intangible resources can be developed which provides a means of identifying both the sources of sustainable competitive advantage, and the relative contribution which the different intangible resources make to business success.

The general contribution which this study sets out to make to the subject of management studies therefore is to provide an additional perspective with respect to the role of intangible resources in business strategy.

The recent development of information technology has produced a significant information economy in most of the developed world, and in consequence the issues of data capture, data transmission, data processing and data storage have become a major policy area for any modern corporation. Because this work is principally concerned with strategic issues the detailed relationship between

intangible resources and recent developments in information systems and information technology will not be discussed here. For the same reason this work will not address the question of the routine management of intangible resources on a day to day basis.

The difficulty encountered by the accountancy profession when it attempts to value "homegrown" brand-names which have not been the subject of an exchange (Barwise, Higson, Likierman, Marsh, 1989) raises the more fundamental question regarding the significance of any quantification of shareholders' funds which does not recognise the value of intangible assets. Johnson and Kaplan (1987) state that:

"A company's economic value is not merely the sum of the values of its tangible assets, whether measurable at historic cost, replacement cost, or current market value prices. It also includes the value of intangible assets: the stock of innovative products, the knowledge of flexible and high-quality production processes, employee talent, and morals, customer loyalty and product awareness, reliable suppliers, efficient distribution networks and the like. ... reported earnings cannot show the company's decline in value when it depletes its stock of intangible resources. ... recent overemphasis on achieving superior short-term earnings performance is occurring just at the time when such performance has become a far less valid indicator of changes in the company's long-term competitive position."

(Johnson and Kaplan, 1987, p.202)

The valuation of the shareholders' funds of a private, as opposed to a state owned, university is only trivially related to the value of the land and buildings which it owns; the resources which are of strategic significance

are reputation; research momentum, etc., as it is these factors which govern the future earning potential. An indication of the significance of intangibles can be obtained from a comparison of the balance sheet valuation of a publicly quoted company with its stock market capitalisation. The extent to which market capitalisation exceeds ordinary capital and reserves varies considerably from company to company. Some examples are given in Table 1.1.

Company	(1) Ordinary Capital & Reserves	(2) Market Capitalisation (November, 1991)	(1) --- (2)
	£(million)	£(million)	
Unilever	2,802	5,490	1.92
Tesco PLC	2,160	4,731	2.20
Thorn EMI PLC	657*	2,222	3.35

\* Includes £(m) 270 intangibles.

Table 1.1. Three Examples of Ordinary Capital and Reserves compared with Market Capitalisation (Nov. 1991)  
Source: "The Hambro Company Guide"; November 1991.

Any premium over the balance sheet valuation which the stock market valuation contains is, in part, a reflection of the intangible resources which cannot be assigned a balance sheet valuation, but which are held to be the source of future earning capabilities.

Handy (1989) suggests that successful businesses will need to become more like universities in so far as they should be learning organisations. Itami and Roehl (1987) have argued that successful organisations recognise that most activities offer the potential to either enhance, or degrade, their key invisible assets, which they define as including reputation, know-how etc.; and that these businesses expect to accumulate invisible assets, as well as



conventional assets, as they complete each turn of the business cycle.

## 1.2 THE STRUCTURE OF THE THESIS

The thesis is structured in three parts:

PART ONE comprises Chapters 1 to 4. It contains the theoretical work. The nature of the problem is examined in Chapter 2. Chapter 3 constitutes a literature review of strategic management. Chapter 4 develops a new theoretical framework, and sets out the hypotheses to be tested.

PART TWO comprises Chapters 5 to 9. It contains the empirical work. Chapter 5 covers the research design. Chapters 6 and 7 set out the results of the pilot survey, and the national survey respectively, whilst Chapter 8 compares the results of the pilot and the national surveys. Chapter 9 presents the findings of the case studies.

PART THREE comprises Chapters 10, 11 and 12. This section discusses the results obtained, draws conclusions, and suggests further work which could be carried out.

In so far as all of the empirical work was concerned with the perceptions of chief executives, the data collected reflects "already held" views. What the study has done is to collect these "already held" views into a new taxonomy and analytical framework which can then be used to provide a new perspective for researchers, teachers and practising managers to view their work, its problems and opportunities.

## CHAPTER 2    A REVIEW OF THE DEVELOPMENT OF INTANGIBLE RESOURCES

### 2.1 INTRODUCTION

The purpose of this Chapter is to establish the nature and characteristics of intangible resources, and to introduce a degree of classification.

There is an established literature covering intellectual property rights (Hodkinson, 1987; Eisenschitz, 1987; Johnston, 1986), and there is an emerging literature in professional journals on the valuation of intangibles, particularly brand names (Holgate, 1988; Mullen, 1988; Barwise, Higson, Likierman & Marsh 1989; Economist, 1992). The last two decades have seen much written on the subject of organisational culture ( Harrison, 1972; Peters & Waterman, 1982; Kanter, 1983; Handy, 1985; Schein 1985; amongst others); and there is a growing interest in the subject of organisational learning ( notably Argyris and Schon, 1978; Morgan, 1986; De Geus, 1988). A general approach to this subject area is rare, with the notable exception of Itami & Roehl (1987), and the aim of this work is to bring these, and related, subjects together in one framework which can encompass the broad area concerning the role of intangible resources in strategic management.

Intangible resources may be classified as "assets" or "competencies". Intangible assets include the intellectual property rights of: patents, trademarks, copyright and registered designs; as well as contracts, trade secrets and databases. The intangible resource of reputation may also be classified as an asset due to its characteristic of "belongingness", and whilst it may be defensible to attack with respect to libel, it cannot be said to have the property rights of, say, a trademark which can be

bought and sold. Skills, or competencies, include the know how of employees (as well as suppliers, advisers and distributors), and the collective aptitudes which add up to organisational culture. When a company is taken over the acquirer can be confident that he has acquired the acquiree's intangible resources such as patents, but he cannot be certain that he will retain the intangible resources of know-how, culture, or networks which are people dependent and which can potentially "walk away".

## 2.2 THE NATURE AND CHARACTERISTICS OF INTANGIBLE RESOURCES

Intangible resources may be classified with respect to the following characteristics:

The 'Having' Capabilities represented by Intangible Assets (e.g. patents)	&	The 'Doing' Capabilities represented by Skills & Competencies (e.g. know-how )
Those which are 'People Dependent' (e.g. reputation)	&	Those which are 'People Independent' (e.g. databases)
Those within a legal context (e.g copyright)	&	Those without a legal context (e.g. organisational networks)

These different perspectives will be examined in the sections which follow.

### 2.2.1 Intangible Resources which are Assets

Intangible resources which have the nature and characteristics of assets, may be viewed as financial factors which can be used to match liabilities, (the accountancy perspective), or as inputs to, and outputs

from, a commercial or industrial transformation process (the operations perspective). In addition intangible resources may be viewed as existing in a legal context, e.g. patents; or in a subjective context, e.g. reputation.

The accountancy profession identifies different categories of asset. The definitions used here are taken from Arnold, Hope and Southworth (1985) and they apply to accountancy practice in the U.K.

#### *Fixed and Current Assets*

Assets which are used to generate revenue, and which are not held primarily for resale are classed as fixed. These assets are usually depreciated according to one or other of the accounting conventions. Fixed assets typically include plant and buildings.

Assets which are held with the intention of conversion into cash are classed as current. Current assets include stocks, debtors and bank deposits. Current assets are not depreciated, but they may be written down by means of bad debt provision or stock provision.

An alternative test for the fixed / current dichotomy is to identify the length of time an asset is to be retained by the organisation; thus assets which are to be held for a relatively long period are classed as fixed; whilst those which are to be held for a short period are classed as current.

Usually the same result is arrived at irrespective of the test used; the key to meaningful classification is to identify the nature of the company's business; for example if the company is a motor trader the cars which it owns are current assets as they are held for

a short term, and with a view to turning them into cash; if on the other hand the firm is a pharmaceutical wholesaler the cars which it owns will be held as fixed assets as they are held for a long term and are used to generate sales revenue. Current assets are valued at the lower of cost or market value, whilst fixed assets are usually depreciated. Buildings which are fixed assets may be revalued from time to time, and in the absence of an exchange the valuation of a professional surveyor is usually acceptable. In this case the valuation of buildings is similar to the valuation of home-grown brand names; an issue which will be examined in a later section.

### *Intangible Assets*

Intangible assets result from expenditure incurred, i.e. an exchange, in return for which nothing tangible is received, but from which a benefit may accrue beyond the current accounting period.

There are three main types of intangible asset: goodwill; research and development; and the intellectual property rights of patents, trademarks, copyright and registered design.

### *The Valuation of Intangible Assets*

Goodwill is the difference between the net asset value of a company as defined by the balance sheet, and the value assigned to the total business as a result of an exchange. Whilst conceptually goodwill represents such things as the quality of customer relations, the value assigned to it is the balancing figure between the net asset value defined by the balance sheet, and the total consideration for the business. In the interests of caution the accounting profession prefers to amortise, or depreciate, goodwill over a short period, usually one year.

Research and development (R.& D.) is an asset which comes about usually as a result of internal expenditure, it may or may not represent an asset which enjoys property rights. R.& D. is unlikely to have a value if separated from the organisation. In the light of these characteristics the professional accounting bodies prefer that expenditure on pure and applied research is written off in the year in which it is incurred; however development expenditure can be written off over a longer period, i.e. it may be capitalised and then amortised.

Intellectual property (which will be considered in detail later) by definition enjoys property rights; i.e. title can be established in law, trespassers can be prosecuted, and it can be bought and sold. Accountancy convention allows the valuation of patents and trademarks but until recently only where ownership had resulted from an exchange which enabled an historic value to be established. Because patents have a finite life it is clear that an amortisation policy should apply. Trademarks however enjoy an indefinite life (if renewed as required by law), and under these circumstances the need for an amortisation policy is less clear; indeed some would argue that many brand names increase in value with age.

When the reputation of a company, or product, is encapsulated in a brand name, or mark, then it should if possible be protected by registration as a trademark. In so far as registered trade marks enjoy property rights, i.e. ownership can be established, and the asset is separable from the business, then it is feasible to assign a valuation to such an asset in the balance sheet. This has been done in the U.K. in recent years by such companies as Guinness plc., and Ranks Hovis McDougall plc.

The Guinness plc takeover of Distillers plc involved a very large sum of money classified as goodwill. This prompted the identification of the amount of goodwill which could be assigned to trademarks, so that a less onerous amortisation policy could be applied to the trademarks than was applied to the goodwill element; i.e. the amortisation of the trademarks could be spread over a number of years as opposed to the amortisation of goodwill in the year of acquisition, thus avoiding a heavy initial impact on the profit and loss account.

Whilst the accountancy profession had little difficulty with the accounting convention used by Guinness plc it had more with that used by Ranks Hovis McDougall plc who, in 1988, had their homegrown brand names valued by consultants at a figure which significantly increased shareholders' funds without the test of an exchange.

The intangibles valued in the Ranks Hovis McDougall plc balance sheet together with the ordinary capital and reserves, and the stock market capitalisations (at November in each year) are shown in Table 2.1.

	1987	1988	1989	1990
	£ ( m i l l i o n )			
Intangibles Valued in the B.S.	0	678	740	588
Ord. Cap & Reserves *	245	897	896	1,002
Mkt. Capn.	1,111	1,411	1,472	1,046

\* Including intangibles (in the form of trademarked brand names) valued in the balance sheet (B.S.)

Table 2.1 Intangibles, Ordinary Capital and Reserves, and Market Capitalisation for Ranks Hovis McDougall plc; 1987-1990. (Source: The Hambro Company Guide, November 1991).

It is interesting to note that the gap between ordinary capital & reserves, and market capitalisation, has closed significantly in the period 1987 to 1990. Some would argue that bringing the balance sheet valuation more in line with the stock market valuation is a good thing as it provides a formal rationale for the latter.

In spite of contrary guidance from the Accounting Standards Committee (Technical Release 780, 1990) the practice of valuing brand names without the test of an exchange continues in some companies. Whatever developments occur in terms of accounting practice it is now well recognised that intangible assets can represent the bulk of the worth of many companies.

In summary therefore the accountancy profession recognises a variety of asset types, and valuation methodologies. The treatment of the valuation of certain intangibles, particularly brand names, is in a state of flux.

#### *Intangible Assets which have a Legal Context*

Intangible resources which are assets, and which enjoy legal protection, are: intellectual property rights; contracts and licences; and trade secrets which are subject to the laws of confidentiality and contract.

#### *Trade Marks*

Of the four main categories of intellectual property, the trademark is the oldest. The earliest evidence of a maker's mark is on pottery made 7,000 years ago. Property rights for trademarks were incorporated in Roman law, where the emphasis was on protecting the customers from being cheated with fraudulent goods, rather than protecting the reputation of the manufac-



turer, as is the case today in the U.K. Trade and service marks afford protection in the use of devices, names, signatures etc. used to describe a product or service. In an age when the brand name can represent the essence of the ideas and feelings associated with a product, the protection afforded by the trade mark can be crucial to the well being of a company so that it may avoid unfair competition and the "borrowing" of its reputation by rivals. Hodgkinson (1987) explains that to have a mark registered in the U.K. the requirements are that it has to be: distinctive, not descriptive of the product, and different from other marks. When a trade or service mark is granted it is for a specific category of product or service. Generally speaking a trade mark cannot be a surname or a geographical name.

#### *Patents*

The formal recognition of an inventor's right of ownership to his invention, was first conceived in Venice in 1421 when the state granted a monopoly to Phillippo Brunillesci in respect of his invention of a floating architectural crane. This was followed in England in 1449 when Henry VI granted a monopoly to one John of Utyman who was installing the stained glass windows in Eton College chapel.

When a patent is granted a "deal" is struck between the state and the inventor whereby the inventor is granted a monopoly in the exploitation of his invention for a limited period of time in the state's territory, in return for the inventor disclosing his invention and it being made available to the world at large. The very word "patent" derives from the Latin "literae patentes" meaning open letter. It can be seen therefore that the basis of patent protection is the concept of the ownership of a new idea (the

invention); and consequent upon the demonstration of that ownership, the establishment of a type of contract between the state and the inventor. To be patented an idea must be: new; exhibit an inventive step; and be capable of industrial application. The information contained in patents is clearly intended for the benefit of the public, and in fact patent databases constitute one of the richest, albeit esoteric, information crops which it is possible to harvest.

### *Copyright*

The need for copyright did not arise until the invention of the printing press in the 16th century, when the copying of documents became easy. In England a monopoly was granted to the Stationers' Company. Members of this company were the only people who could print documents, and in exchange for this monopoly they undertook to censor, on political and religious grounds, everything which was printed. This is another example of a "deal" being struck between the state and the owner of the intellectual property. Nowadays no such "contract" applies as in the U.K. copyright is automatic so long as date and exclusivity of authorship can be demonstrated.

Copyright is meant to protect the embodiment of an idea. For example the plots of "The Taming of the Shrew" and "Romeo and Juliet" are Shakespeare's original ideas which could not enjoy any protection from the copying which resulted in "Kiss Me Kate" and "West Side Story". These musicals are embodiments, fashioned by others, of the original ideas, and it is the embodiments which enjoy the protection of copyright. Hodgkinson (1987) explains that:

"Any record of research and testing and of other written and similarly stored information may also

be protected from copying or commercial reproduction. Almost anything requiring effort to compile, such as logarithmic tables, customer lists, catalogues, directories, or trade journals, is capable of protection by the law of copyright. It can also protect computer software ... "

(Hodkinson, 1987, p. 5)

In the *Copyright (Computer Software) Amendment Act (1985)* the U.K. Parliament confirmed that copyright protection is available for computer programmes; however the question of what constitutes a programme is still causing controversy, in particular in the area of the interfaces which are those parts of a programme that interact with other programmes, hardware etc. A recent Council Directive (May, 1991) requires all European Economic Community member states to introduce legislation in a common form by 1992 in order to eliminate this confusion.

#### *Registered Designs*

A registered design enables the "eye appeal" of a commercial article to be protected. Design registration is concerned only with appearance, and designs may be two dimensional, e.g. a fabric print; or three dimensional, e.g. a soft drinks bottle. Designs which are purely functional, and which lack "eye appeal", will not be able to be registered; however it may be possible to obtain copyright protection for some functional designs, as mentioned above. For a design to be registered it must not have been published or offered for sale.

#### *Contracts & Licences*

Contracts, in the form of agency agreements, licence agreements, property leases etc. can constitute one of the most important resource categories of some busi-

nesses, e.g. Virgin Atlantic's landing rights at New York. Walker (1980) explains that a contract is an agreement between two or more persons (or other legal entities) intended to create a legal obligation between them and to be legally enforceable. The law of contract exists to regulate all kinds of business and economic relationships, sale, hiring, employment, construction etc. Contracts are therefore the embodiment of an agreement, which define the terms of that agreement so that each party understands, and can protect and enforce, his rights.

### *Trade Secrets*

Trade secrets cover a wide range of confidential information from technical secrets such as formulae, know-how, and processes, to information about a firm's customers, employees, sales strategies etc. Hodgkinson (1987) defines the features of the law on trade secrets as follows:

"The law on trade secrets in the U.K. is almost entirely judge-made, no statute governs it... The basic requirement for information to qualify for protection is that it must be information which is not publicly or generally known in the industry or business concerned and which is communicated to the recipient for only a limited purpose, or received by the recipient in circumstances which objectively he should know impose a restriction on the uses to which that information may be put. It is not possible to protect trade secrets from independent discovery by a third party, as is the case with patents, but the unauthorised use or disclosure of the information, if directly or indirectly obtained from the owner or licensee, can often be restrained"  
(Hodgkinson, 1987; p.14).

Trade secrets therefore depend on the imposition, sometimes unilaterally, of personal obligations on others, either by means of the law of confidentiality, or the law of contract. The nature of this contract, which may be implicit or explicit, can give one party (say the employer) rights, whilst the other party (say the employee) may experience restrictions.

### *Databases*

Database management is increasingly the key to success in developed information economies. Lucey (1987) defines data and information as follows:

"Data can be defined as groups of non random symbols which represent quantities, actions, things etc. ... For processing purposes, data are organised into structures and groups, files and databases. Information is data that have been processed into a form which is meaningful to the recipient and which is of real or perceived value in current or prospective decisions and actions. It will be seen that data are the raw materials for producing information. It also follows that what is information for one level of the organisation may be used as data for further processing into information for a higher level."

(Lucey, 1987, p.13)

Perhaps the key aspect of database management is the imposition of structures which change the data into information. The data contained in a telephone directory is of little use until the alphabetical structure has been imposed. Similarly it is the ability to impose many different structures, by classification, coding, sorting and ranking which is the key to the management of a customer database used by a direct

mail selling organisation.

#### *Information in the Public Domain*

Information which is in the public domain is unprotected. The embodiment of the information, i.e. the form of words and phrases, may enjoy automatic copyright protection and may not be reproduced without permission, but the content, or information, is freely available. Arguably the most important category of information in the public domain is that of scientific works. Usually these may not be patented because they do not satisfy the condition that the idea should be capable of direct industrial application.

#### *Reputation*

Unlike the intangible resources treated above reputation has little significance in a legal context other than the redress obtainable with respect to libel. It is clearly not possible to buy or to sell reputation except in so far as it may be construed to reside in a brand name registered as a trademark. Reputation, which represents the knowledge and emotions held by individuals about, say, a product range, can be a major factor in achieving competitive advantage through differentiation; it also contributes to a defensible position because of the time which can be involved in matching a reputation which is strong in both fame and esteem; fame can be bought with advertising spend in the short term, but esteem has to be earned, usually over a long period of time.

#### *Organisational Networks*

Hastings, Mindel and Young (1989) suggest that networks are those personal relationships which transcend the requirements of organisational structure, commercial relationships etc.; they are to do with sharing information and purpose to mutual advantage. The

networks which employees institute may be internal, or external, to the organisation. Internal networking is essential in large organisations if synergy is to be achieved. External networks with customers, suppliers, government agencies, research institutes, and even competitors are essential if the changing environment is to be effectively monitored, and if collaboration is to be effective.

Hastings, Mindel and Young (1989) coined the phrase "Networking Organisations" to describe those organisations which are moving towards more loosely structured flexible forms of organisation based on networking rather than functional hierarchy. Networking organisations are typically organisations employing scarce know-how workers whose value systems favour autonomy and development; the network organisation may even consist of groups of independent experts who form, and reform, into groups according to the requirements of the workload.

It can be argued that external networking is the key to the successful operation of the "Diamond of National Advantage" model put forward by Porter (1990). The "Diamond of National Advantage" has the following attributes, or conditions:

" *Factor Conditions*. The nation's position in factors of production, such as skilled labour, or infrastructure, necessary to compete in a given industry.

*Demand Conditions*. The nature of home demand for the industry's product or service.

*Related and Supporting Industries*. The presence or absence in the nation of supplier industries and related industries that are internationally competitive.

*Firm Strategy, Structure and Rivalry.* The conditions in the nation governing how companies are created, organised, and managed, and the nature of domestic rivalry."

(Porter, 1990, p.71)

Porter maintains that these determinants create the national environment in which companies are born and learn to compete. It can be argued that the companies which succeed are those which bring the most effective networking skills to bear in the control and management of the four conditions.

#### 2.2.2 Intangible Resources which are Competencies

Intangible resources which are competencies include: the know-how of employees, professional advisers, suppliers, distributors; and the culture of the organisation which enables it to cope with change, react to challenge etc.

##### *Know How*

It can be argued that "distinctive competence" is synonymous with "distinctive skill"; in which case it follows that the know-how of employees, and suppliers, distributors etc., is the intangible resource which produces distinctive competence, which in turn can lead to a competitive advantage. Distinctive competencies are the capabilities which the organisation possesses which set it apart from its competitors. For example it can be argued that the competitive advantage which Jaguar Cars enjoys is the differentiation achieved by the reputation of the "Jaguar" name; the distinctive competence which the company enjoys however is the ability to build a special type of quality car. This ability is founded on the skill and experience, or know-how, of the employees.



## Culture

The concept of organisational culture has received considerable attention in the last twenty years. Schein (1985) argues:

" ... that the term "culture" should be reserved for the deeper level of *basic assumptions* and *beliefs* that are shared by members of an organisation, that operate unconsciously, and that define in a basic "taken for granted" fashion an organisation's view of itself and its environment."

(Schein, 1985, p.6)

Schein elaborates:

"Culture should be viewed as a property of an independently defined stable social unit. ... There has to have been enough shared experience to have led to a shared view, and this shared view has to have worked for long enough to have come to be taken for granted and to have dropped out of awareness. Culture, in this sense, is a *learned product of group experience* and is, therefore, to be found only where there is a definable group with a significant history."

(Schein, 1985, p. 7)

The culture of an organisation both sets it apart from others, and also binds its members together; it may work to the organisation's advantage or to its disadvantage. To a degree culture is a function of the type of activity which the organisation is engaged upon, to a degree it is a function of the life cycle stage which the organisation has reached; and it can be argued that an organisation's culture is the product, consciously or unconsciously produced, of the senior

managements' vision and style. Kanter (1985) and De Geus (1988) argue, respectively, that the main task of senior management in the future will be the promotion of organisational cultures which thrive on change, and which can continually learn and adapt.

### 2.2.3 People Dependent and People Independent Intangible Resources

Intangible resources may be classified as people independent or people dependent, and within the people independent classification they may be further subdivided into those which enjoy legal protection, and those which do not. Examples of intangible resources which fall into these different classifications are given in Figure 2.1.

A FRAMEWORK OF INTANGIBLE RESOURCES

PEOPLE INDEPENDENT		PEOPLE DEPENDENT
WITH LEGAL PROTECTION	WITHOUT LEGAL PROTECTION	
Intellectual Property Rights Contracts Trade Secrets Some Databases	Public Knowledge, Some Databases.	
		Know-how Networks Culture Reputation

Figure 2.1 A framework of intangible resources

Many intangible resources have integrity which is independent of a person, or a group of people. When a company is taken over the acquirer can be confident that he has acquired the acquiree's intangible resources which are people independent such as patents, trade secrets, etc.; but he cannot be sure that he will retain, under all circumstances, the resources of know-how, culture, networks and reputation which are people dependent.

### 2.3 THE ECONOMICS OF INFORMATION

There is an established literature on the economics of information (Lamberton, 1971; Silbertson 1967; Monk, 1989). This literature typically establishes the characteristics of information prior to the building and development of models. The characteristics of information identified by an economist differ from the characteristics of intangible resources as developed in this work.

The characteristics of information identified by Monk (1989) for the purpose of building and developing an economic model are as follows:

- Information cannot be appropriated; i.e. it is a free good which cannot be owned.
- The concept of quantity is inappropriate to the treatment of information; e.g. the effort required to produce it is independent of the quantity produced, and when it is consumed the producer's "stock" is not diminished.
- Information is heterogeneous, and non divisible in use. Whilst half a ton of (homogeneous) steel is worth half as much as one ton of steel, half the (heterogeneous) formula for making the steel is not worth half the whole formula, or even anything at all.

Monk's view of information as: a free good, without the characteristic of quantity, and heterogeneous differs considerably from the characteristics of intangible resources identified here. The intangible resources which enjoy intellectual property rights, are not a free good. A database in the form of a mailing list is homogeneous and quantifiable because half of the list can be worth half the value of the complete list. It is also possible to argue that the quantity, or "stock" of an intangible resource may, under certain circumstances, increase as it is used! When a bottle of Coca Cola is sold by a licensee the licensor has made a "sale" in terms of incurring a royalty debtor, and yet the "stock" of the licensor's property can be construed as having increased because of the incremental exposure which the trademark has enjoyed. The literature on the economics of information has not made a significant contribution to the study of intangible resources.

#### 2.4 CONCLUSION TO CHAPTER 2

It has been established that intangible resources may be classified as "people independent" or "people dependent", and as "assets" or "competencies". The "people independent" and "people dependent" dichotomy will be linked to the nature of the evolution of strategic management which is examined in Chapter 3; and the "assets" and "competencies" classification will be linked to the model of capability gaps put forward by Coyne (1986) which is examined in Chapter 4.

## CHAPTER 3 - A-REVIEW OF THE BUSINESS STRATEGY LITERATURE

### 3.1 INTRODUCTION

The purpose of this Chapter is to:

- Review the degree to which the role of intangible resources in business success is treated as a coherent subject in the literature.
- Review the development of the literature on strategic management, and in doing so to chart its progress from "mechanism" to "humanism" - from a concentration on people independent resources to people dependent resources.
- To review the strategic analysis techniques which are practised and taught in order to check to what extent the analysis techniques are congruent with current thinking regarding the nature and characteristics of strategic management.
- To explore the literature regarding the nature of *sustainable competitive advantage*

The history of the research and teaching of strategic management is, by many academic standards, brief. The literature starts in the 1960's and the concepts are still developing.

The initial objective of this literature review is to illustrate the movement in the perception of strategy from "mechanistic" to "humanistic"; from being content oriented to being process oriented; and from being a process which was probably best carried out by specialists who took a detached view, to being a process which was best carried out by those who would be involved in the choosing and implementation of the strategy.

The early thinking on strategic management was concerned

with the construction of logical frameworks and techniques which would enable the independent observer to analyse the facts, and deduce the optimum strategy. The perception was biased towards analysis, and deficient with respect to issues of implementation. The strategic management process was concerned more with what to manage, in terms of companies, products etc., than with how to manage.

The limitations, some would say the unreality, of this approach have been recognised increasingly in the 1980's, and the relevance of the organisational behaviour discipline to strategic management is accepted.

The move in focus from content to process, and from exogenous to indigenous, has resulted in the realisation that without effective implementation the strategic management process is nothing. It is increasingly recognised that strategic management issues are, to a greater or lesser extent, the concern of all members of an organisation, and that organisational culture may sometimes be synonymous with strategy, albeit the strategy in use, as opposed to the espoused strategy.

### 3.2 TERMINOLOGY

Strategy is a much used, and abused, word. It holds a fascination with scholars and students in the English speaking world, where it implies subjects of a weighty and esoteric nature. The comments and observations made in this work regarding strategy refer to strategy in a Western context; it is beyond the scope of this work to examine the concept of strategy in, say, Japan.

### 3.2.1 The Etymology of the word "Strategy"

The Oxford English Dictionary (O.E.D.), (1989) gives, as the original definition of strategy:

"The art of a commander in chief; the art of projecting and directing the larger military movements and operations of a campaign".

The fourth definition of strategy given by the O.E.D. is:

" In (theoretical) circumstances of competition or conflict, as in the theory of games, decision theory, business administration, etc., a plan for successful action based on the rationality and interdependence of the moves of the opposing participants."

The O.E.D. states that the word was first used in the context of business administration by Ansoff (1965). Hofer and Schendel (1978) however credit Alfred Chandler (1962), a business historian, with an earlier definition (see section 3.22).

In spite of the fascination, perhaps even preoccupation, which researchers and students have with the concept of strategy, the business studies community has not arrived at a consensus with respect to a universally accepted definition of strategy. In the next section we will see that there are numerous definitions of strategy. The fact that there is more than one definition is not due to any fickleness, or ineffectiveness, on the part of business studies academics; it is more to do with the fact that the nature of the challenge facing the business strategist has changed significantly in the post second world war period. The changing perception of business strategy in the last thirty years is reviewed in Section 3.3.



### 3.2.2 Definitions of Business Strategy

Whilst the Oxford English Dictionary's fourth definition of strategy given above is elegant, it is somewhat different to that put forward by eminent business studies academics. It is productive to examine some of these definitions in order to appreciate the many facets of the business strategy concept. The following definitions are those of some of the leading contributors to the subject:

The early definition given by Chandler (1962) is:

"...the determination of the basic long term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals."

(Chandler, 1962, p.13)

This early definition now seems rather dated, it is concerned with planning and there is no mention of the environment. This omission reflects the stability of the pre oil-shock environment when the strategic management process was largely concerned with planning the future on the basis of an anticipated environment which could be forecast so long as one was able to identify the relevant historical trends to extrapolate.

One of the most commonly used definitions is that given by Hofer and Schendel (1978).

"... the fundamental pattern of present and planned resource deployments and environmental interactions that indicates how the organisation will achieve its objectives"

(Hofer and Schendel, 1978, p.25)

Hofer and Schendel go on to identify four components:

"*Scope*, that is, the extent of the organisation's present and planned interactions with its environment. This component will sometimes be referred to as the *organisation's domain*.

*Resource deployments*, that is, the level and patterns of the organisation's past and present resource and skill deployments that will help it achieve its goals and objectives. Sometimes, this component will be referred to as the organisation's *distinctive competences*

*Competitive Advantages*, that is, the unique positions an organisation develops vis-a-vis its competitors through its pattern of resource deployments and/or scope decisions.

*Synergy*, that is, the joint effects that are sought from the organisation's resource deployments and/or scope decisions."

(Hofer and Schendel, 1978, p.25)

This definition, coming as it did after the oil shock, clearly highlights the role of the (implicitly dynamic) environment; it maintains the idea put forward by Chandler that the allocation of resources must play a key role in the strategic management process; and it introduces the concepts of competitive advantage and distinctive competence, although it does not identify the need for competitive advantage to be *sustainable*.

Mintzberg (1988) suggests that strategy may be viewed in five different ways; his "five P's" :

"Strategy as a Plan; some sort of *consciously intended* course of action, a guideline ... to deal with a situation."

"Strategy as a Ploy; a manoeuvre to outwit an opponent"

"Strategy as a Pattern; a pattern in a stream of things."

"Strategy as Position; the choice of position in the chosen environment"

"Strategy as Perspective; an ingrained way of perceiving the world"

(Mintzberg, 1988, pp 14-18)

These five different views have merit. Strategy as a plan needs no comment. Strategy as a ploy is usually in the nature of an ambush or a threat; for example a competitor is lured into a market segment which proves disastrous, or a competitor is dissuaded from moving into a market segment by virtue of a threat of massive retaliation. Strategy as a pattern is a powerful concept; strategy is fundamentally about the allocation of resources; when a pattern, or rationale, can be discerned in the way resources have been allocated we have a strategy, be it explicit or implicit. Strategy as position is central to the concept of matching the strengths and weaknesses of the organisation with the opportunities and threats in the environment; the matching process is largely one of choosing the right position in the market, in the value chain, etc. Finally the "Strategy as perspective view" is concerned with the idea that ultimately it is the values and norms of the organisation which will determine the pattern, or rationale, which is applied to the utilisation of resources.

Morgan (1986) suggests that strategy as organisational learning is as much about self imposed limits as it is about declared aims; that organisational learning involves the ability to create degrees of freedom within which the organisation can evolve, so that organisational mission is defined in terms of "noxious" to be avoided rather than

in terms of targets to be achieved. Morgan neatly illustrates this view by pointing out that one of the most effective religious policy statements is that contained in the Ten Commandments which is more about "Thou shalt nots" than it is about "Thou shalts".

In summary the key features of the foregoing definitions of strategy are:

- A consistency in the way the members of the organisation behave - usually evidenced by an identifiable rationale with respect to the allocation of resources. Such a consistency of behaviour is usually due to shared values and norms (the organisation's culture).
- An organisational learning capability which enables change in a turbulent environment, and which produces superior performance.
- The conscious identification, and management of, the sources of sustainable competitive advantage.

The nature and characteristics of these three key features are addressed in this study.

Teachers of strategy often present the strategic management process as being akin to answering the following questions :

- Who are we ?
- Where are we ?
- Where do we want to go ?
- How do we get there ?
- How do we know when we have arrived?

Two criticisms of this analogy are appropriate. The first concerns the fact that it is often necessary to monitor not only performance against the original route plan, but also to question the continuing appropriateness of the

objective which has been set. This ability to question norms is described by Argyris (1978) as "double loop learning" and is examined later in this Chapter. The second criticism of this analogy is that it implies an ending, i.e. an arrival at a destination. In as much as companies aim for immortality there is no final destination, one needs to go through destinations, or objectives, and on to the next one. The realisation of this leads to the belief that the nature of the journey may constitute a more important focus than the image of the destination. This in turn highlights the role of organisational culture; for it is culture which governs the habits, attitudes and values which influence how we do things as opposed to which things we do. Mintzberg (1990) highlights the difference between the "mechanistic" and the "humanistic" views of strategic management with the "Porterian School" (after M.E.Porter), and the "Peterian School" (after T. Peters); the former, he says is concerned with picking the right markets and positioning one's self well within them; whereas the latter is concerned less with what one manages than with managing whatever it is excellently.

Clearly Mintzberg was exaggerating to make a point, but his example of the "Porterian" and "Peterian" schools illustrates neatly an aspect of the dichotomy between the "mechanistic" and "humanistic" views of strategic management.

### 3.3 HISTORICAL OVERVIEW

The concept of military strategy dates from the ancient Greeks and Chinese, but as we have seen from reference to Ansoff's work strategy was first identified as a tool of management in the 1960's. This is not to say, of course, that strategy was not practised in business before the 1960's, rather that the business studies community did not identify strategy as a technique to be researched and

taught before the 1960's. It is possible that much of the confusion regarding the nature of strategy can be associated with its apparently interchangeable use in both military and business contexts.

In warfare there is clarity about the objective; it is to win. This is accepted by most concerned in the process because the alternative is to be beaten, and probably subjugated.

In warfare therefore the strategic process is conceptually simple: all the relevant factors are assessed; options are generated and evaluated, and one is chosen; the plan is put into effect and the outcome, sooner or later is clear. This scenario is considerably different to the business situation where the objectives may not be clear, or even explicit; the "enemy's" identity may change from time to time, and there is usually no clear outcome, or resolution of the process. This is not to say that business is more complex than war, simply that the natures of the two are very different, and this probably causes confusion with respect to the concept of strategy. This issue will be addressed more fully when Mintzberg's critique of what he calls the "Design School" concept of strategy is examined in section 3.4.

A comprehensive historical overview of the development of strategic management is given by Taylor (1986) who marked the 100th issue of the "Long Range Planning Journal" with a review of 1,000 articles published on the subject of planning. Taylor's analysis is summarised below:

#### 1965 - 1973: *Stability and Growth*

Authors tended to be preoccupied with: forecasting and planning techniques; sociological issues of affluence, trade union pressures etc.; a stable growth environment

was assumed. ---

*Key Issues* ('65-'73) were: \* Limits to growth, \* Social responsibility, \* Industrial planning, Co-determination, \* Public participation in planning.

#### 1974 - 1979: *Business Under Attack*

The energy crisis in 1973-74 represented a watershed in planning. Serious discontinuity was experienced, and inflation became a major problem. There was new interest in subjects like: Scenario Planning, The Use of Financial Models, Planning Under Conditions of Inflation and Alternative Sources of Energy. Management were forced to respond to the pressures of environmental protection groups, ethnic minority groups etc.

*Key Issues* ('74-'79) were: \* The energy crisis, \* Planning for inflation, \* Quality of working life, \* Civil rights and women's rights \* Environmental protection, \* Declining competitive performance.

#### 1980 - 1984: *Cutback and Rationalisation*

Right wing political parties were elected in reaction to inflation, high taxation and strikes. Institutional shareholders encouraged tougher, more aggressive top managers. Authors were writing about: Restructuring the Business, Acquisitions and Mergers, The Management of Turnaround Situations, Competitive Analysis and Competitive Strategy. *Key Issues* ('80-'84) were: Unemployment and job creation, \* Cutbacks in public services \* Rationalisation of industry, \* Management of turnaround situations, \* Competing and co-operating with Japan.

#### 1984 Onwards: *Revival or Decline ?*

The current (1986) themes, Taylor says, are concerned with how to improve competitive performance. Authors are

concerned with six major areas of interest:

*Strategy and Technology.* (electronics, robotics etc.);

*Production and Operations Strategy.* (productivity, quality and reliability)

*Strategies for Human Resources.* (recognition that one of Japanese industry's competitive edges is their "People Strategy" - their ability to engage, involve and motivate people, to tap their energy and their ideas)

*Strategic Marketing.* (Service Training, Internal Marketing, and Corporate Image campaigns are vogue)

*Financial Strategy.* The finance function has four key roles to perform: the traditional treasury job; managing relations with shareholders, managing risk and financial services.

*Information as a Corporate Resource.* This will result in: strategic planning for information, information systems for top management, and the management of databases.

The Key Current Issues (1984 onwards) are identified as: \* Privatisation and deregulation, \* Competition for global markets, \* Achieving a market position in emerging technologies, \* Fastening entrepreneurship and intrapreneurship, \* Building and changing company cultures, \* Harnessing information technology for competitive advantage, \* Redesigning the public service.

Taylor concludes his article thus:

"The most important New Frontier is *Implementation*", and "To achieve competitive performance requires an integrated approach to business; not just to produce strategies and plans but to develop an organisational capability to carry them out. Hence we are seeing an attempt to manage strategic change at all levels in the organisation."

(Taylor, 1986, p.18)







- \* Environmental - a passive process.
- \* Configurational - the identification of the different configurations which the elements of an organisation (organisational structure, support systems, culture etc.) may form.

It can be argued that Mintzberg's use of the term "schools" is inappropriate as it suggests that they all represent established schools of thought holding differing views; whereas some of Mintzberg's "schools" are merely his perceptions. The most all embracing of Mintzberg's perspectives is the "configurational". It constitutes a multi-dimensional analysis, and acknowledges types of organisation, modes of strategy etc.

Quinn, Mintzberg and James (1988) argue that the configurational school recognises that:

"... the various elements of an organisation, the strategies, structures, support systems, culture and so on, tend to cluster together naturally to produce certain relatively distinct overall 'configurations' appropriate to particular widely encountered situations,...called 'contexts'."

(Quinn, Mintzberg and James, 1988, p.516)

Mintzberg (1990) points out that the assumptions inherent in the "Design School" often:

"... prove false, both descriptively and prescriptively. In other words, often not only don't organisations do these things, but by all accounts, they should not."

(Mintzberg, 1990, p. 181)

However he does go on to acknowledge that:

"... it (the 'Design School') has provided the central notion that underlies all prescription in this field, namely that strategy represents a fundamental congruence between external opportunity and internal capability. These important contributions will stand no matter how many of this school's specific premises may fall away."

(Mintzberg, 1990, p. 192)

Mintzberg is the principal writer currently taking a holistic, although some would say an iconoclastic, view of the nature and characteristics of strategy. In particular he is questioning the validity of the main model of the strategic management process which has been commonly used in teaching and research.

The idea that the strategic management process practised in successful enterprises is based on organisational learning capabilities is currently receiving attention. De Geus (1988) credits the success of some of the Royal Dutch/Shell Group companies through periods of turbulence, to their ability to live in harmony with the business environment, to switch from a survival mode when times were turbulent to a self development mode when the pace of change was slow. In particular he says that:

"... successful outcomes ... depend on learning ... or more precisely, on institutional learning, which is the process whereby management teams change their shared mental models of their company, their markets, and their competitors. For this reason we think of planning as learning, and of corporate planning as institutional learning."

(De Geus, 1988, p.70)

The concept of strategic management has changed significantly in the last 30 years. From being an issue of "fit" it is now perceived as being more to do with "vision", and this poses a fundamental issue with respect to how much "stretch" should be involved in the "vision"; if there is too much "stretch" then the vision is unrealistic, if there is not enough then little progress is made. This issue is wrapped up with other issues which can only be assessed subjectively, such as: confidence in the leader and the management team, and the self esteem of those involved etc.

### 3.5 STRATEGIC ANALYSIS TECHNIQUES

Much of the literature on strategic management is concerned with analysis. Indeed many of the techniques which are listed in the analysis phase of the strategic management process appear again when the question of evaluating options is examined. This is entirely reasonable because an option which has been chosen as a result of an analysis of the current circumstances should be subjected to the rigours of the same analysis by way of simulation to check that it will be suitable, feasible and acceptable in the future.

Primary analysis is concerned with: the objectives of stakeholders, the nature of the relevant environment, the state of the enterprise's resources, and the way in which these have changed in the past and may change in the future. When this results in one all embracing comprehension we have the configurational analysis described by Quinn, Mintzberg and James (1988).

### 3.5.1 Analysis of the Stakeholders' Expectations and Objectives

Strategy cannot exist in isolation, it only has meaning in the context of objectives. Whose objectives are legitimately to be considered ? What is the nature of their objectives ?

Johnson and Scholes (1988) identify the following factors which influence the stakeholders' expectations, objectives and power :

<u>CULTURE</u>	<u>EXTERNAL FACTORS</u>	<u>THE NATURE OF THE BUSINESS</u>
History,	Values of Society,	Market Situation,
Leadership & Management Style, Structure & Systems.	External Pressure Groups.	Products & Technology.

In examining the issue of whose objectives can legitimately be considered it is first necessary to consider the different stakeholders who may be associated with an enterprise.

The principle stakeholders in a commercial enterprise are

Suppliers	Customers
Local Community	National Community
Banks	Shareholders
Employees	Managers
Directors	

and there will be sub-groups comprising, for example: professions, unions, departments, sexes, geographic regions etc.; indeed a feature of recent history seems to be

the fact that as time goes on there are more and more stakeholders whose interests are held to be valid concerns of the enterprise.

When there are so many "teams" on the playing field the question "What game are we playing ?" is of crucial importance. Indeed the degree of consensus about the nature of the "game" being played is often surprising. The probability of achieving consensus is of course greatly assisted if there are certain issues which are widely accepted, for example the need to make a profit, or the need to give service to customers. When there is disagreement about the validity of, say, the profit goal, then life for the manager becomes difficult. When there is no profit goal, or agreement about who is the customer, then the ability to devise a meaningful strategy is low because insufficient people will share similar perspectives.

The natural interests of the major stakeholders in a privately owned, for profit, organisation are shown below:

Shareholders:	Growth in share value, dividend stream,
Directors :	Profits, status (often through growth), security, scope, power.
Employees :	Pay, security, job satisfaction, career prospects.
Suppliers :	Growing volumes, high prices.
Customers :	Price quality, delivery, variety.

It can be argued that the strategic management process should start after the objectives of the organisation have been set; however it is now largely accepted that the setting of objectives should be part of the strategic management process; indeed a key aspect of the "People Strategy" style of management discussed by Taylor (1986), and promoted in the 1980's, is the process of promoting the ownership of objectives by as many as possible of

those who are concerned with their implementation.

Cox (1990) describes the fundamentals of managing relationships with stakeholders in a specific initiative carried out at the Ind. Coope Burton Brewery during the period 1982-1988 as follows: for each of the following transactions management identified the objective and the strategy:

- Shareholder - business plan, role of the S.B.U.
- Customers - product delivery, promotional support.
- Community - charitable donations, public image.
- Employees - training, pay systems.
- Suppliers - contractual terms, ordering systems.

Each of these objectives, and other subordinate objectives, had its own task force, and the same marketing principles which had been applied traditionally to customers, were applied to each stakeholder group in order to ensure universal commitment to the implementation. Whilst the typical stakeholder interests are not necessarily mutually exclusive, it is obvious that many will often be in conflict. Conflict will be minimised if self interest is overshadowed by a common threat, e.g. a takeover; or if all stakeholder groups can begin to share the same holistic view of the total system, and agree the tradeoffs which are necessary.

It has been fashionable in the late 1980's for organisations to have mission statements, or super-ordinate goals; and the importance of a vision which can be shared by all concerned has been stressed.

The need for members of an organisation to have a shared vision seems to be self evident, yet there is more than one reason for this; and they are worth examining. The first obvious reason is to provide a common goal so that



all the "team" are pulling in the same direction. It can be argued that there are two other powerful reasons. The second, less obvious, reason is to enable a sense of achievement, and consequently heightened self esteem, to be enjoyed when identified goals are met. In writing about controlling organisational behaviour by means of "internal motivation" (as opposed to "external control"), Hampton, Summer and Webber (1978) explain that the former is based on the belief that employees will be motivated by the feelings of accomplishment, achievement, recognition, and self esteem that come from having performed a job well.

Atkinson, Atkinson and Hilgard (1983) explain that the reticular system is the filtering mechanism which controls the processing of received stimuli in the human brain. Tice (1980) states that if a stimulus constitutes a benefit, or a threat, then it is passed by the reticular system and stored and/or processed. Thus the sharing of a vision amongst the members of an organisation enables all members of the organisation to be sensitive to stimuli which are relevant to the organisation's objectives, and in consequence the learning capability of the organisation may be enhanced. If such an enhanced learning capability is to be utilised then it is necessary for the organisation's communications channels to be effective, and for the managers to be receptive to a wide variety of messages from many different members of the organisation.

Montebello (1990) suggests that whereas strategy was about "fit" in the 1980's it will be about "vision" in the 1990's. This view of strategy was identified by Mintzberg (1990) as the "Entrepreneurial School". The nature of the mission objective is that it is general, visionary and open, as opposed to closed. An illustration of a classic mission statement is the excerpt from the American Constitution "...we hold it to be self evident that all men are created equal..." Whilst it is very general, it neverthe-

less captures the essence of the sentiment. It can be argued that mission statements which emanate from figure-heads are more believable than those which emanate from organisations which have little discernible character.

Business and functional objectives are more likely to be specific and bounded, i.e. "closed". Clearly subordinate objectives need to be both synchronised and congruent. It is wrong for a business strategy to be conceived without the functional capabilities and limitations being recognised. For example the operations function is concerned with the following competitive edge criteria:

\* Delivery      \* Quality      \* Cost      \* Flexibility

If the optimum "recipe" is to be identified then clearly the required operating characteristics must be identified in conjunction with the marketing mix competitive edge criteria:

\* Product      \* Promotion      \* Price      \* Delivery

If sub-optimisation is to be avoided all functional managers need to be clear as to what constitutes the critical success factors and the critical failure factors.

Research into goal congruence within an organisation has been carried out by Neely and Wilson (1991) at The University of Nottingham. Functional goals, such as delivery performance, quality, cost etc. were ranked by different members of the organisations studied. The ranking was achieved by means of paired comparisons. The authors conclude that a high degree of goal congruence is not necessarily desirable, but that the degree of congruence should be known by all concerned so that incongruence can be acted upon. Incongruence may be eliminated by persuading members of the rightness of the organisation's

goals; or by individuals persuading the members of the organisation that the organisation's goals should be modified.

### 3.5.2 Analysing the Environment, and the Competitive Position of the Business in it

Environmental analysis is concerned with understanding the nature of the relevant environment, one's position in it, and the forces at work which will bear on one's fortunes.

The nature of one's environment may be one of various fundamental types: simple, static, dynamic, complex, turbulent, or discontinuous. The type of analysis which is appropriate for one type of environment will not be appropriate for another. If the environment is simple and static then past events are probably a good indicator of the future. As the environment becomes more dynamic and complex then one needs to move to more sophisticated analysis techniques such as simulation and scenario building.

The history of the last 15 years demonstrates clearly that whilst a company may be in a stable environment for a while, e.g. the oil industry pre "oil-shock", the environment can change very quickly to a complex and turbulent one. Ultimately the requirement is situational sensitivity, or the ability to change with the circumstances. This organisational characteristic is examined below in section 3.62 on organisational learning.

#### *Lifecycle Analyses*

The lifecycle analysis is variously applied to products, companies and markets; and is typically presented in the form of a four stage model comprising: birth, growth, maturity and decline. If these stages in the lifecycle are conceived as representing one dimension, the second dimen-

sion may be continuous, e.g. sales revenue; or discrete, e.g. competitive position, type of organisational culture etc. When the second dimension is discrete, a matrix analysis results, and the interstices of the matrix may be used to identify, for example, alternative courses of action. It is self evident that all human endeavour has a lifecycle, the key issue is the duration of the stages; they may be very short, as in the case of popular music; or very long, as in the case of a brand name such as "Drambuie". The limitation of the model with respect to its application concerns the difficulty of knowing how long the stage which one is in will last. Will the fashion for double breasted suits last another five years, or only six months ?

#### *The Structural Analysis of Industries*

Porter (1985) has provided a model to facilitate a sophisticated analysis of the attractiveness of an industry. This is based on the identification of the key "players" in any firm's market, together with the nature of the threats which they pose. These are summarised below:

<u>PLAYER</u>	<u>THREAT</u>
Supplier	Bargaining Power, Threat of "Downstream" diversification.
Potential Entrant	Threat of new entrant.
Substitute	Threat of substitute products
Buyers	Bargaining Power, Threat of "Upstream" diversification.
Industry Competitors	Rivalry amongst existing firms.

For each of the five forces Porter identifies factors which should be analysed. For example with respect to "Entry Barriers" he lists: economies of scale, brand

identity, switching costs, access to distribution etc.

This "Five-forces Framework" is designed to facilitate the identification of those aspects of the industry structure which are crucial to long-run profitability, and in so doing to identify the attractiveness of the industry.

It is difficult to fault the framework proposed by Porter. In operation the framework acts as a check list with respect to the identification of the features of a company, and its industry, which are the keys to success.

#### *Sustainable Competitive Advantage*

Following on from an analysis of the attractiveness of an industry (established by means of the structural analysis described in the preceding section), it is necessary to establish the competitive position within that industry.

Porter (1985) suggests that the competitive advantage, which establishes the competitive position, is due to either cost leadership, differentiation, focussed cost leadership or focussed differentiation. This is a widely accepted analysis although some critical examination will be given here.

Cost leadership may be exploited in a variety of ways. If the cost leadership is used to generate bigger margins which in turn are distributed to the shareholders, the company is unlikely to enjoy any business advantage (other than that which may accrue to a publicly quoted company if its strengthened shares are used for acquisitions). If the bigger margins are used to promote sales then a business advantage will probably accrue. If the cost leadership is used to reduce selling price then a business advantage will probably accrue in the form of increased sales volume, which in turn will reinforce the cost leadership by means of the experience curve effect (see sec-

tion 3.53). It can be argued that the cost leadership which produces business advantage always does so by means of differentiation, (the differentiation is either related to the image which has been promoted by means of promotional spend, or it is related to the lower selling price), and in consequence it can be argued that there is only one source of competitive advantage, and that this is differentiation. This conclusion suggests a more detailed examination of the types of differentiation which may exist.

Coyne (1986) suggests that sustainable competitive advantage results from customers perceiving a consistent difference in the product and/or delivery system attributes compared to the competition. He points out that in as much as every company which is making a sale to a customer must have some advantage in the eyes of that customer then all companies which are making sales can be said to have competitive advantage *in the eyes of their current customers*. He suggests that sustainable competitive advantage belongs to those companies whose "footprint" in the market is both wide and deep; wide in the sense of appealing to a large proportion of the targeted market, and deep in the sense of possessing relevant attributes which have significant superiority to the competition. It is clear from the foregoing that competitive advantage is based on customers' perceptions, and that these will vary from customer to customer.

Coyne (1986) goes on to argue that the sources of competitive advantage are capability gaps, of which there are four types. The four types are:

- Regulatory/legal gap
- Position gap
- Business system gap
- Organisation quality gap

These gaps are capability differentials which exist over competitors. The regulatory/legal gap pertains to an aspect of operations which is defensible in law, say a patent. The position gap pertains to a state which is the result of previous actions, say a good reputation. The business system gap pertains to a functional capability such as the consistent achievement of a very high specification. Finally the organisation quality gap pertains to the capability of the organisation to, for example, react to challenge, institute change etc.

Gilbert and Strebel (1989) suggest that competitive advantage results from the ability to provide the customer with the optimum relationship between:

" Perceived value: Delivered cost."

This view has merit, and it can be argued that a slightly more elegant concept would be that of optimising the ratio of:

"Perceived benefit: Committed lifetime cost"

The perceived benefit will be made up from differing mixes, or "recipes", of:

Specification	Conformance to specification
Image	Functionality
Aesthetics	After Sales Service
Innovation	User Friendliness etc.

and committed lifetime cost includes:

Initial Cost, Operating Cost, Depreciation, Maintenance and De-commissioning.

The concept of optimising the ratio of "Perceived benefit:

Committed cost" suggests that the perceived benefit (degree of differentiation) should be maximised whilst the cost is minimised. This appears to be somewhat at odds with the view taken by Porter who advises against "...being stuck in the middle..." by trying to achieve both cost leadership and differentiation simultaneously.

The nature of competitive advantage is the subject of debate, and these arguments will be returned to later in this thesis.

### 3.5.3 Analysing the Resources of the Enterprise

Strategic resource analysis is typically concerned with strategic business units, product ranges, physical facilities, characteristics such as entry barriers, and also every aspect of a company which may have a bearing on its future success. The resources of an enterprise need to be analysed in the context of its operating environment, and the value chain analysis is concerned with identifying the resources which are relevant to the crucial links in the value chain.

#### *Value Chain Analysis*

Porter (1985) developed the business system concept put forward by McKinsey and Company into what he defined as the "value chain" :

" Every firm is a collection of activities that are performed to design, produce, market, deliver and support its product. All these activities can be represented using a value chain... A firm's value chain and the way it performs individual activities are a reflection of its history, its strategy, its approach to implementing its strategy, and the underlying economics of the activities themselves."

(Porter, 1985, p. 36)



Every firm is part of a larger value chain which stretches upstream to the basic extractive industries, and downstream to the ultimate waste disposal system. Porter maintains that the insight afforded by the value chain analysis is with respect to the identification of the key value activities, and their linkages. The identification of value activities must be a subjective process as the amount of value which has been added cannot be identified until an exchange has taken place with a customer, and this is often not feasible part way through a process. Notwithstanding this reservation the concept of identifying those activities which add value is a powerful one. The "Just in Time" philosophy of manufacturing is based on the principle of eliminating all types of waste, where waste is described as anything which adds cost, but not value, to the product.

The examination of linkages is productive as the nature of the linkages can determine the degree of differentiation which is achievable; e.g. a major retailer working closely with certain suppliers on innovation, design, and quality will establish linkages which will be difficult for others to copy. The linkages may also determine the degree to which any competitive advantage is sustainable; e.g. a woollen mill having a unique source of cashmere wool will enjoy a defensible position. Within the context of the value chain it is advisable to analyse both the efficiency and the effectiveness of the resource utilisation. The issue of efficiency will be crucial if the enterprise is pursuing a strategy of cost leadership, whereas effectiveness becomes the key issue if the strategy is one of differentiation.

### *Experience Curve*

The experience curve is attributed to the Boston Consulting Group (B.C.G.) who used the expression in connection

with the B.C.G.-Matrix (examined in the subsequent section titled "Analysing the Balance of Resources"). The Boston Consulting Group identified evidence to support the contention that there was a direct and consistent relationship between the aggregate growth in volume of production and declining cost of production. The existence of the learning curve phenomenon was first identified at the Wright - Patterson U.S. Air Force Base in the study of the time taken to assemble aircraft in the 1920's. It was determined that the time taken for defined tasks declined by a certain percentage every time the quantity built was doubled; i.e. the time taken declined in a negative exponential fashion. The experience curve has wider application than the learning curve as, in addition to direct costs, it reflects the improved recovery of production overheads, fixed selling costs etc.

#### *Analysing the Balance of Resources*

Portfolio analysis is concerned with achieving a balance in the characteristics of investments such as subsidiary businesses, products, shares etc. The characteristics of these units may be: age, cash consuming/generating properties, risk, capital gain potential, revenue earning potential etc.

Smith (1990) points out that the limitation of portfolio analysis with respect to business strategy is that it is primarily concerned with which individual assets should be owned, rather than how they are managed.

The most famous portfolio technique is the Boston Consulting Group (B.C.G.) matrix which is based on a "Directional Policy Matrix" (D.P.M.). The D.P.M. is a device for locating different businesses, products etc., on a two dimensional grid. The original B.C.G. matrix had the following dimensions :

- the company's rate of growth indexed to the rate of

growth of the relevant country's gross domestic product.

- the company's market share indexed to the share of its largest competitor.

and the resulting matrix is divided into high and low growth, and high and low share sectors. According to which of the four quadrants the company or product falls it is classified by the well known labels of "Stars", "Question Marks", "Dogs", and "Cash-Cows". Various criticisms of the B.C.G. matrix have been offered. Both the means of calibrating the two dimensions, and the division between high and low sectors are arbitrary. Buzzell and Gale (1987) cite evidence identified by the Strategic Planning Institute's Profit Impact of Market Strategy (P.I.M.S.) unit which links market share with profitability; but there are obvious difficulties regarding, for example: the definition of the relevant market; industries which do not enjoy economies of scale; etc.

Recent developments of this approach by General Electric and Shell use more sophisticated parameters. For example market growth has been replaced by market attractiveness, which may include factors such as nature of competition, entry barriers etc. Similarly market share has been replaced by competitive position which may include factors such as relative product qualities, patent protection etc. Inevitably parameters which are multi-dimensional rely on some form of subjective assessment procedure and in consequence these developments of the original B.C.G. technique are also vulnerable to the criticism of arbitrariness.

The validity of Directional Policy Matrices as analysis techniques has been questioned most notably by Wensley (1981) who points out that:

"...(D.P.M.) is in grave danger of leading the analyst to the tautological position of recommending preferential investment in those areas of highest market attractiveness and strongest business position."  
(Wensley, 1981, p.177)

The achievement of corporate strength by means of a portfolio of subsidiaries has recently been viewed with disfavour by the stock markets in the U.S.A. and in the U.K. where it is common to find a "conglomerate discount" applying to the shares of diversified companies such as British American Tobacco (B.A.T.) plc, Lonrho plc.

In spite of these negative comments the Directional Policy Matrix techniques are useful as presentational devices, and it is perhaps because of this that the B.C.G. Matrix continues to be taught long after it has ceased to be used by its originators.

#### *Comparative Analysis*

Comparative analysis is used for the on-going monitoring of a business as well as strategic analysis. The comparisons may be of current performance with previous years, or of one's own company's performance vis a vis others in the industry. The features of the company which are monitored will vary with the nature of the business, but in addition to the normal balance sheet and trading statement factors it is increasingly being recognised that a company needs to monitor non-financial issues such as quality, delivery performance, customer service etc.

#### *Core Competencies*

The outcome of the strategic management process is often presented in text books as being a sustainable competitive advantage. This in turn is presented as being the result of a distinctive competence. Prahalad and Hamel (1990) suggest that:

"During the 1980's, top executives were judged on their ability to restructure, de-clutter, and de-layer their corporations. In the 1990's, they'll be judged on their ability to identify, cultivate, and exploit the core competencies that make growth possible - indeed, they'll have to rethink the concept of the corporation itself."

(Prahalad and Hamel, 1990, p.79)

They maintain that the tendency for corporations to divisionalise and create semi-autonomous business units may be denying the corporation the opportunity to leverage, and develop, their core competencies. If the core competence of the corporation is surface chemistry, as it arguably is in the case of Proctor and Gamble; then it may be counter-productive if this capability is spread over market oriented divisions such as toiletries, detergents, and drugs, each of which guards its resources jealously.

Prahalad and Hamel go further and suggest that the relevant market share to measure in the future may not be that which is concerned with the end-product, but it may be that which measures the success of the corporation in producing the component which is the product of the corporation's core competence. In the case of Black and Decker this is arguably its share of the world market in small electric motors.

### 3.6 THE CONTRIBUTION OF ORGANISATIONAL BEHAVIOUR TO STRATEGIC MANAGEMENT

The 1980's saw an increasing dominance on the part of Japanese manufacturing industry in many product areas, most noticeably cars, commercial electronics and consumer electronics. This dominance resulted in much attention being given to the way Japanese industry was organised,

and the nature of the leadership and management style which was employed. The success of the Japanese in efficient production, and with quality and reliability led to attention being devoted to the issues of "Just in Time" production and "Total Quality Management". This attention has resulted in the conclusion that these successes are due not so much to specific techniques, but more to a way of corporate life; i.e. a culture.

### 3.6.1 Organisational Culture

Handy (1985) was an early writer on organisational culture; he proposed four types of culture:

*The Power Culture* - typified by the following characteristics: proud and strong; central power source; reacts quickly to threat; results oriented.

*The Role Culture* - typified by the following characteristics: strong functional organisation, clearly defined procedures for roles: (e.g. job descriptions, authority definitions); for communications, for the settlement of disputes etc.

*The Task Culture* - typified by the following characteristics: task or project based, loose organisations which change according to the requirements of the tasks in hand, team working is common and easy working relationships pertain with mutual respect based on capability rather than age or status.

*The Person Culture* - typified by the following characteristics: the individual is the central point, the individual can leave the organisation but the organisation seldom has the power to evict the individual, individuals do what they are good at and are listened to on appropriate topics.

It is to be expected that the perception of the operative type of culture will depend on one's position in the

organisation.~It is likely that viewed from the bottom most organisations appear to have a power culture, and viewed from the top most organisations will be perceived as having a role or people culture; consistent categorisation will probably only be achieved if it is made by an outsider.

The role of culture in strategic management has received much attention in the late 1980's, and this attention is continuing into the 1990's. Ansoff and Baker (1986) posed the question "Is Corporate Culture the Ultimate Answer?" They conclude that:

"... corporate culture is not the answer to all of the firm's concerns about the future. Culture is important, but it is only one of the interdependent chain of components which make up management's general capability. Furthermore, a firm may or may not need a cultural change in order to face the future with confidence. If it doesn't, it is better advised to focus on the state of its other capabilities (such as the planning system or power structure) in preference to climbing on the culture-changing bandwagon"

(Ansoff and Baker, 1986, p.93)

Ansoff's advice to hesitate before "climbing on the culture-changing bandwagon" is probably sound, for if culture is akin to individual personality (based as they both are on values, habits and attitudes), then it is obviously prudent to avoid attempting to change it every year or so.

Other writers e.g Peters & Waterman (1982), Kanter (1983) hold that the strategic management process needs to be understood as an essentially cultural process; and that therefore the role of culture is more pervasive than Ansoff suggests.

At a functional-level the question of culture, and culture change, has received attention in the context of total quality management. Total quality management has been defined by Kanji (1990) as:

"...the way of life of an organisation committed to customer satisfaction through continuous improvement...whose principles are to be:

- management led
- company wide
- everyone's responsibility
- prevention not cure
- right first time
- aware of the cost of quality
- striving for continuous improvement"

(Kanji, 1990, p.163)

It can be seen from this definition which uses the expression "...way of life..." that the concept of total quality management is close to that of organisational culture. In consequence initiatives to introduce total quality management are often concerned with culture change. The factors in play in a culture change situation are identified by Carnall (1990) as being:

- the energy for change.
- the felt dissatisfaction with the present situation.
- the level of knowledge of the practical steps for  
-ward.
- the shared vision.

(Carnall, 1990, p.98)

A process sequence for changing culture is given by Wickens (1990):

i. Secure top level commitment to change



- ii. Involve appropriate staff in diagnosing the detailed change requirements
- iii. Promote the need for change (this may involve a "trigger" for change, e.g. a financial crisis, reacting to a take-over etc.).
- iv. Plan the change process (go for significant early success in visible areas)
- v. Develop the people (training becomes a constant feature)
- vi. Maintain and reinforce the change process

Roger Harrison, who worked with Charles Handy in the early 1970's, has abandoned the power, role, task or person framework of cultural modes for a different framework based on levels of consciousness. Harrison's framework (Harrison, 1991) is hierarchical and has three levels: transactional, self expression and mutuality. The characteristics of these three levels are as follows:

Mutuality	: quality; trust; high levels of communication...
Self-expression	: individuality; fluid, open organisation; high risk, high reward...
Transactional	: hierarchical; 'carrot and stick'; control...

Harrison identifies different culture change mechanisms depending on which culture is the object of the change process, and whether it needs weakening, strengthening or changing.

### 3.6.2 Organisational Learning

There is a body of opinion (Argyris and Schon, 1978; Morgan, 1986; de Geus, 1988; Itami and Roehl, 1987) which holds that whilst short to medium term success may be

enjoyed by organisations led by a particular person, occupying a particularly favourable market position etc.; the key to long term survival depends on the learning capability of the organisation. De Geus maintains that:

"... the ability to learn faster than competitors may be the only sustainable competitive advantage."

(De Geus, 1988, p.74)

The learning to which de Geus refers is not the learning of new techniques, nor the winning of new data, it is the acquisition of new insights, new attitudes and values. De Geus describes how in the Royal Dutch Shell Group new insights, attitudes and values were learned by "playing" with scenarios, e.g. playing with a scenario of a "world of \$5.00 per barrel of oil". De Geus suggests that whether the learning process has been achieved through play or through teaching, it is basically a process of language development. As an illustration of institutional learning De Geus uses the example of birds which move in flocks, e.g. titmice. The majority of a flock of titmice quickly learns how to pierce milk bottle tops. The majority of robins, who have a solitary, territorial and confrontational nature, do not. The implication is that the best organisational learning takes place in teams which accept that the whole is larger than the sum of the parts, and which accept that there is a good that transcends the individual.

Morgan (1986) voices similar sentiments:

"Another major strength of the ideas considered... hinges on their contribution to our understanding of how strategic management can be designed to facilitate learning to learn. Traditional strategic planning models tend to emphasise setting goals and targets to help an organisation respond to threats and opportuni-

ties presented by the environment. As discussed, this tends to inhibit the kind of inquiry that challenges basic operating assumptions. In contrast, the ideas explored ... suggest using cybernetic principles to create degrees of freedom within which the organisational mission in terms of "noxious" to be avoided rather than in terms of targets to be achieved."

(Morgan, 1986, p.106)

Morgan points out that knowing what one cannot do gives one many more degrees of freedom than being told what one must do, and he maintains that this working policy is common in Japan.

Morgan's work inevitably reflects the seminal thinking of Argyris. Argyris proposed the concepts of: theory in use, espoused theory, single loop and double loop learning, and organisational learning.

Extracts from Argyris' writing (Argyris and Schon, 1978) which illustrate these concepts are given below:

#### *Theory in Use and Espoused Theory*

"When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance and which, upon request, he communicates to others. However, the theory that actually governs his actions is his theory in use, which may or may not be compatible with his espoused theory; furthermore, the individual may or may not be aware of the incompatibility of the two theories"

(Argyris and Schon, 1978, p. 11)

The theory in use may remain implicit because it is at odds with the espoused theory, in which case it is 'undis-

cussible'.     ~~~

*Single Loop Learning:*

" ... members of the organisation respond to changes in the internal and external environments of the organisation by detecting errors which they then correct so as to maintain the central features of organisational theory in use"

(Argyris and Schon, 1978, p. 18)

*Double Loop Learning:*

"... those sorts of organisational inquiry which resolve incompatible organisational norms by setting new priorities and weighting of norms, or by restructuring the norms themselves together with associated strategies and assumptions."

(Argyris and Schon, 1978, p. 24)

"In organisational single loop learning, the criterion for success is effectiveness. Individuals respond to error by modifying strategies and assumptions within constant organisational norms. In double loop learning, response to detected error takes the form of joint enquiry into organisational norms themselves, so as to resolve their inconsistency and make the new norms more effectively realisable. In both cases, organisational learning consists of restructuring organisational theory of action."

(Argyris and Schon, 1978, p. 29)

*Organisational Learning*

"Organisational learning occurs when members of the organisation act as learning agents for the organisation, responding to changes in the internal and external environments of the organisation by detecting and correcting errors in organisational theory in use, and embedding the results of their enquiry in private

images and shared maps of organisation"  
(Argyris and Schon, 1978, p. 29)

The double loop learning capability which Argyris describes is effectively an automatic culture change mechanism. It is a capability which De Geus claims some of the Royal Dutch Shell companies possess, and which he maintains can be promoted by means of "learning by playing".

The organisation which is flexible and adaptive to the extent that it is able to automatically revise accepted norms is being viewed by some as possessing the ultimate competitive capability; and yet when does this *adaptability* become *inconsistency of purpose* ? Organisations need to "lock-on" to conventional objectives, and yet be able to "lock-off" when the objectives become inappropriate. The balance between *consistency of purpose* and *fickleness* can be a fine one.

Itami and Roehl (1987) suggest that one of the keys to organisational learning lies in the policy of learning by doing. He maintains that this requirement should influence strategic choice so that for example a "Make or buy" decision is influenced as much by the need to always be adding to core know-how as by cost considerations.

### 3.7 APPARENT DEFICIENCIES IDENTIFIED IN THE LITERATURE

#### 3.7.1 The Strategic Management of Technology

Taylor (1986) identified two key issues for the late 1980's to do with technology. These were:

- Achieving a market position in emerging technologies.
- Harnessing information technology for competitive advantage.

There is a growing literature on the management of technology, with one of the major U.K. sources being the Science Policy Research Unit based at the University of Sussex; however this literature does not seem to have attained the representation it arguably should have in the mainstream business strategy literature.

### 3.7.2 Purchasing Strategy

Virtually all of the strategic management literature is sales market oriented, and little, if any, mention is made of supply markets. The notable exception to this statement is Porter's (1985) structural analysis which examines the bargaining power of suppliers, and the threat of forward integration which suppliers may pose.

The latter half of the twentieth century has become the age of specialisms. The growth of specialisms has resulted in a growth in the number of stages in value chains; this in turn has resulted in the cost of bought-in materials and services accounting for an increasing proportion of the cost of sales (often as high as 80% in the manufacturing sector).

There is much literature regarding the management of "downstream linkages", i.e. concerning the sales market; there is a paucity of literature regarding the management of "upstream linkages", i.e. concerning the supply market. There appears to be a need for literature which addresses the subject of the strategic management of "upstream resources".

### 3.7.3 Intangible Resources

Whilst it can be demonstrated that the academic treatment, and the management practice, of the strategic management

process have moved from "mechanism" to "humanism"; the number of "mechanistic" strategic analysis techniques seems to outnumber the number of "humanistic" analysis techniques. It can be argued that the contribution which the discipline of organisational behaviour can make to the strategic management process has yet to be fully recognised. This also seems to be the case in other management areas, such as operations, where the "Total Quality Management" and "Just in Time" initiatives can be better understood and implemented with a knowledge of the advances in organisational behaviour.

Itami and Roehl (1987) treat the subject of the role of intangible resources in business strategy as a coherent entity. Itami and Roehl coined the expression "invisible assets" to cover such factors as: consumer trust, brand image, control of distribution, corporate culture, management skill, etc. They believe that these are the most important assets for business success because: they are hard to accumulate; they are capable of simultaneous multiple uses; and they are both inputs and outputs of business activities, i.e. they are feedback factors. They are also difficult to evaluate and analyse.

One of the objectives of this study is to design and test the appropriateness of an analysis technique which aims to identify the contribution which intangible resources make to business success.

#### 3.7.4 Sustainable Competitive Advantage

The nature of sustainable competitive advantage was explored in section 3.52. Whilst Porter's (1985) work on competitive advantage is held to be seminal, it can be argued that it is more applicable to large corporations operating in clearly defined national markets, than to small companies. Coyne's (1986) concept of analysing the

capability gaps which a company possesses vis a viz its competitors has the appeal of appearing to be applicable to companies of all sizes.

### 3.8 CONCLUSION TO CHAPTER 3

The objectives of this literature review were defined as being:

- To review the degree to which the role of intangible resources in business success is treated as a coherent subject in the literature.
- To review the development of the literature on strategic management, and in doing so to chart its progress from "mechanism" to "humanism" - from a concentration on people independent resources to people dependent resources.
- To review the strategic analysis techniques which are practised and taught in order to check to what extent the analysis techniques are congruent with current thinking regarding the nature and characteristics of strategic management.
- To explore the literature regarding the concept of *sustainable competitive advantage*

With the exception of Itami and Roehl (1987) no author was identified who attempted to address the issue of the role of intangible resources in business success as a coherent subject.

There does appear to be a clear progression in the literature spanning the period 1965 to 1990 from "mechanism" to "humanism". Most academic research and teaching is concerned with education as opposed to training, and as such it seems to be inevitable that it will be 'content', as opposed to 'process' oriented; and that it will be deficient with respect to the issues of implementation which are essentially concerned with skills.



A detached, academic, perspective which focuses on content is inevitably exogenous; and this perspective was arguably responsible for the early tendency for strategic management to be practised by consultants or specialist staff.

In the late 1970's and early 1980's it became apparent that a strategic plan which was not 'owned' by those who were responsible for its implementation stood a poorer chance of successful completion than one which was 'owned' by all concerned; in addition it was realised that the strategic management process was not a discrete activity which had a beginning and an end, but that it was a process which was iterative and continuous.

In the mid 1980's the success of Japanese manufacturing methods, and management styles, led to much attention being given to practices such as "Total Quality Management" and "Just-in-Time" production planning. These programmes were quickly recognised as being: "Not so much a programme, more a way of life"; and much of the literature concerning total quality management is concerned with culture change.

The empirical stage of this project will check the relative contributions to business success made by "people dependent resources" as opposed to those made by the "people independent resources".

Many of the analysis techniques identified in this literature review are concerned with resources which are "people independent". This is to be expected as the nature of most analysis is to work with objective facts which can be quantified. It is easier, and arguably more meaningful and productive, to identify factors such as: market growth, market share, cash consumption characteristics etc.; than to identify, and attempt to analyse factors such as cul-

ture, and reputation. This dilemma is well illustrated by the problems which the accounting profession has had with the valuation of brand names. The literature review does seem to identify the fact that most of the analysis techniques available to the strategist relate to the mechanistic aspects of strategy, and that many fewer are concerned with the human dimension; it is easier to identify analysis techniques which clarify the issue regarding "what should we own", than it is to identify analysis techniques which will clarify the issue regarding which intangible resources are key to success and how they should be managed.

The meaning of the expression "sustainable competitive advantage" is, on the face of it, so self evident that there appears to be little need for a detailed examination of precisely what it does mean. The literature review identified Coyne (1986) as the most interesting author on this subject. Whilst Porter's (1985) "cost leadership" and "differentiation" are definitive in identifying the states which give major national "players" in a market one or another sort of advantage, they are of less use in identifying the nature of the advantage enjoyed by the majority of small to medium sized companies. Coyne's proposal that any advantage enjoyed by a company must derive from a combination of four, and only four, capability gaps seems to be both elegant and universal. The empirical stage of this project aimed to check whether this is so.

In summary therefore the literature review proved to be most productive in that two works were identified which were inspirational. Itami and Roehl (1987) indicated that the role of intangible resources could be addressed as a coherent subject. This indication proved to be the spur which resulted in a taxonomy of intangible resources being developed in the study. Coyne (1986) indicated that there may be a universal analysis technique available for analysing the sources of competitive advantage. His con-

cept of capability gaps has been developed in this study by associating each intangible resource with one, and only one, capability gap.

## CHAPTER 4    THE DEVELOPMENT OF A NEW THEORETICAL FRAME -WORK AND THE HYPOTHESES TO BE TESTED

### 4.1 INTRODUCTION

The purpose of this Chapter is to present a theoretical framework of intangible resources in a strategic context, and to propose the hypotheses which will be tested by the empirical work.

### 4.2 A NEW THEORETICAL FRAMEWORK

The scope of the concept of intangible resources was established in Chapter 2 where it was presented as extending from intellectual property rights, through trade secrets, contracts and licences to the people dependent resources of reputation and know-how.

A taxonomy of intangible resources in a strategic context is developed in this Chapter by introducing the notion of intangible assets and intangible competencies, and by associating each individual intangible resource with a capability differential. The nature and rationale of this taxonomy will be expounded in the following sections. Because we are concerned with the role of intangible resources in business success, the framework will be developed by considering in turn: sustainable competitive advantage, capability differentials, and then introducing the different types of intangible resource into this framework.

#### 4.2.1 The Strategic Management Process

Most human endeavour takes place in a competitive environment. Whilst the competitive nature of free markets is self evident; it is also the case that, for example, a

public service fire brigade is in competition with a public service police force because they are both competing for the same limited resources.

It is axiomatic that an organisation which exists in a competitive environment seeks a competitive advantage so that it can achieve its objectives. If this advantage is not to be short-lived then it needs to be sustainable. The desired outcome of the strategic management process for organisations operating in a competitive environment is therefore a sustainable competitive advantage.

#### 4.2.2 Sustainable Competitive Advantage

In Chapter 3 the nature of sustainable competitive advantage was examined. It was maintained that companies have sustainable competitive advantage when they consistently produce products and/or delivery systems with attributes which correspond to the key buying criteria for the majority of the customers in their targeted market. These attributes, will include factors such as: price, specification, reliability, aesthetics, functionality, availability, image, etc. Any company which is making sales must, logically, enjoy an advantage in the eyes of those customers who are buying from them. It is clear therefore that competitive advantage exists in the eyes of customers, and the "recipe" of attributes which constitutes advantage in the eyes of one customer will not, necessarily, appeal to another. Competitive advantage is enjoyed by those companies who are appealing to a current, or emergent, majority of customers in their targeted market. In order to have sustainable competitive advantage Coyne (1986) suggests that not only do the product and/or delivery system attributes need to be significant to customers, to be sustainable they also need to be the result of a capability differential which will endure.

#### 4.2.3 Capability Differentials

Coyne (1986) identifies the sources of sustainable competitive advantage as being four types of capability differential, viz: "functional differential", "cultural differential", "positional differential" and "regulatory differential". (Coyne's article uses the terminology "business system gap", "organisation quality gap", "position gap" and "regulatory/legal gap"). Competitive advantage can derive from one, or more, of the four differentials but only these four; in that sense they are exhaustive.

The nature of these capability differentials is examined below:

##### *Capability Differentials Based on Assets*

*Regulatory differential* results from the possession of legal entities such as: intellectual property rights, contracts, trade secrets etc. Some of these may be accorded a balance sheet valuation, they are all defensible, in some fashion, in law.

*Positional differential* is a consequence of past actions which, for example, have produced a certain reputation with customers, a certain configuration of the value chain etc. Positional differential is a consequence of previous actions and decisions. In some cases the time involved in achieving the position, e.g. one's reputation in the market, may represent one's defensible position.

##### *Capability Differentials Based on Competencies*

*Functional differential* relates to the ability to do specific things; it results from the knowledge, skill and experience of employees, and others in the value chain such as suppliers, distributors, stockbrokers, lawyers,

advertising agents etc. When know-how can be utilised to produce products which will maintain, and preferably win, market share, then it can be said to be creating a relevant functional differential.

*Cultural differential* applies to the organisation as a whole. It incorporates the habits, attitudes, beliefs and values, which permeate the individuals and groups which comprise the organisation. When the organisation's culture results in, for example: a perception of high quality standards, an ability to react to challenge, an ability to change, an ability to learn etc.; then that culture is a contributor to competitive advantage.

In summary therefore functional and cultural differentials are based on competencies, or skills, such as advertising, or zero defect production; whilst positional and regulatory differentials are related to assets which the business owns, such as brand names, or reputation. The first two differentials are therefore concerned with "doing", whilst the second two are concerned with "having". It is clear therefore that competitive advantage results not only from distinctive competencies, i.e. skills, but also from intangible assets.

#### 4.2.4 A Framework of Intangible Resources

We have seen that in addition to being categorised as being people dependent and people independent, intangible resources may be categorised as assets or competencies. These two perspectives can be combined within the concept of capability differentials as shown in Figure 4.1:

A FRAMEWORK OF INTANGIBLE RESOURCES  
& CAPABILITY DIFFERENTIALS

CAPABILITY DIFFERENTIALS					
		FUNCTIONAL	CULTURAL	POSITIONAL	REGULATORY
P E O P L E	D E P E N D E N T	Know-How of Employees, Suppliers, Distributors.	Perception of Quality, Ability to Learn, etc.		
				Reputation, Networks.	
P E O P L E	I N D E P E N D E N T			Databases.	Contracts, Licences, Trade Secrets (incl. some Databases), Int. Propy. Rights.

Figure 4.1 A Framework of Intangible Resources and Capability Differentials



Each capability differential results from one, or more, intangible resource: e.g. a regulatory differential may result from a patent, or a trademark; and a positional differential may result from reputation, or an established distribution network. Intangible resources may therefore be thought of as being the "feed stock" of the capability differentials, and each intangible resource can be uniquely associated with a capability differential.

The following questioning routine illustrates the way in which each intangible resource may be uniquely associated with a capability differential:

Is the resource an asset (is it something which one "has"), or a competence (something which one can "do")?

If asset: - Is the resource defensible in law ? If "Yes" then the resource is associated with the regulatory differential.

- If it is not defensible in law then the resource is associated with the positional differential.

If competence: - Is the resource an individual, or professional, skill ? If "Yes" then it is associated with the functional differential.

- If the resource is concerned with shared values and attitudes then it is associated with the cultural differential.

The relationship between: sustainable competitive advantage, capability differentials, and intangible resources can be represented by a construct which is represented as Figure 4.2.

INTANGIBLE RESOURCES, CAPABILITY DIFFERENTIALS AND SUSTAINABLE COMPETITIVE ADVANTAGE

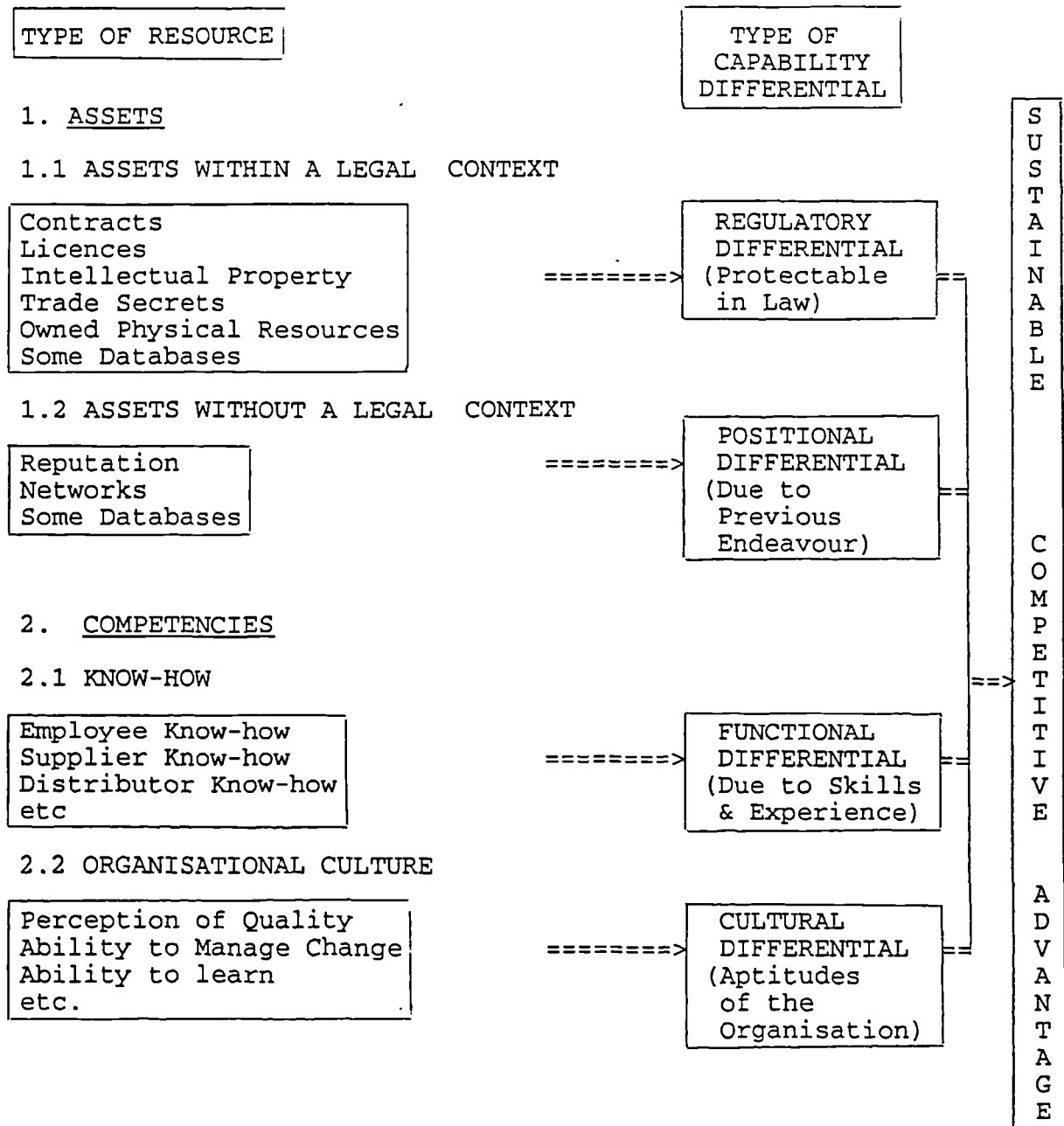


Figure 4.2 Intangible Resources, Capability Differentials and Sustainable Competitive Advantage

#### 4.3 THE HYPOTHESES TO BE TESTED

Whilst the nature of the empirical work will be presented in detail in subsequent Chapters, it is necessary at this stage to explain that it comprised three stages. The first stage was a pilot postal survey to establish the feasibility of the exercise, and to validate the questionnaire. The second stage was a larger national postal survey. Both postal surveys were designed to establish whether or not senior executives were sympathetic to the concept of a coherent subject concerned with the strategic significance of intangible resources, and to establish their perceptions regarding the relative importance of the different resources, the replacement periods associated with them, and other related issues. The third stage consisted of six case studies with medium to large companies. The purpose of each case study was to test the newly devised technique for analysing the contribution which intangible resource makes to sustainable competitive advantage. The test is based on a framework of capabilities and intangible resources.

The following hypotheses have been identified following the critical review of the literature on intangible resources and strategy:

##### 4.3.1 The Source(s) of Business Success

That intangible resources make a significant, often the most significant, contribution to business success.

##### 4.3.2 The Role of "Reputation"

That in view of the high valuations put on brand names in recent years "Reputation" is one of the most important resources a business can possess.

#### 4.3.3 The Role of Employee Know-how

That because distinctive competence is often cited as a source of competitive advantage, employee know-how is a major contributor to business success.

#### 4.3.4 The Role of Intellectual Property Rights

That in view of the time and expense often associated with defending intellectual property rights, resources such as patents are not rated highly in terms of the contribution they make to business success.

#### 4.3.5 The Importance of the "Operations" Function

That in view of the fact that the essence of most businesses is to be found in the operations function, encompassing as it does the bulk of the value adding activities, it is perceived as one of the most important areas of employee know-how.

#### 4.3.6 The Contribution of "Reputation" to the Sustainability of Advantage

That, due to the long time necessary to establish the esteem component of "Reputation" it is the intangible resource with one of the longest replacement periods.

#### 4.3.7 Successful Companies will Accumulate Intangible Resources

Itami and Roehl (1987) reason that in addition to being positive with respect to conventional assets (i.e. profitable), successful companies pursue strategies which enhance their "stock" of intangibles such as reputation, employee know-how etc.

#### 4.3.8 A Framework of Intangible Resources

That for the purposes of strategy review and formulation intangible resources may be arranged in a logical framework which enables them to be treated as a coherent subject.

#### 4.3.9 A Technique for Analysing Intangible Resources

That an analysis technique can be devised which will identify the contribution of intangible resources to business success.

#### 4.3.10 The Ability to Define Competitive Advantage

That "recipes" of product attributes which constitute competitive advantage can be defined, and that they will vary from company to company depending on the nature of the customer needs being addressed.

#### 4.3.11 The Roles of Capability Differentials

That the roles of the four capability differentials which produce competitive advantage can be defined, and that they will vary from company to company depending on the nature of the key product attributes which constitute the competitive advantage.

#### 4.3.12 A New Perspective for Material Already Known

That the new analysis technique will enable executives to take a new perspective with respect to material already known.

#### 4.3.13 A Useful Aid to Communications

That the framework of intangible resources, which is the outcome of the new analysis technique, will provide executives with a useful aid to communications.

The degree to which these hypotheses can be supported will be examined in Chapter 10.

## PART II THE EMPIRICAL WORK

### CHAPTER 5 THE OVERALL RESEARCH DESIGN

#### 5.1 INTRODUCTION

The purpose of this Chapter is to outline the nature of the three stages of empirical work which were carried out. These comprised: a pilot postal survey, a national postal survey, and six cases studies. The results obtained from each of these stages will be treated in detail in Chapters 6, 7 and 8.

#### 5.2 THE PILOT POSTAL SURVEY

The main purpose of pilot postal survey, which was carried out in March 1990, was to validate the questionnaire. Because the nature of the subject is new this validation exercise involved checking not only the design of the questionnaire, but also whether the nature of the subject could be communicated to potential respondents, and whether they could be motivated to contribute to the survey.

The survey was sent to named chief executives of one hundred major private, as opposed to state owned, firms in the North East of England. The mailing list is a list which had been compiled within the Management Division of the University of Newcastle upon Tyne for the purpose of promoting the MBA programme to major employers in the region.

Potential respondents to the pilot postal survey were offered anonymity if they wished, and the opportunity to receive summary results was extended to any respondent who sent in a business card under separate cover. Samples of

all the communications used in this first survey are given in Appendix I, whose contents are outlined below:

#### Appendix I Pilot Survey

Section I a Pilot survey questionnaire.

Section I b Pilot survey statistical calculations.

Twenty nine questionnaires were returned, and the response rate of 29% was held to be very encouraging. The composition of the sample of respondents is shown in Table 5.1.

<u>Sector</u>	<u>No. of Respondents</u>
Manufacturing	17
Trading	9
Services	2
Transport	1
	--
Total	29

Table 5.1. Composition of Respondents to the Pilot Postal Survey

The size of this response rate (29%) provided the encouragement to proceed to a national postal survey; the content of the responses indicated a need to slightly modify some aspects of the questionnaire, and these changes are itemised in Chapter 7, Section 7.2.

### 5.3 THE NATIONAL POSTAL SURVEY

The purpose of the national postal survey, which was carried out in June 1990, was to obtain data similar to that obtained in the pilot survey, but from a larger population of companies more evenly distributed across the major industrial and commercial sectors. The survey was

addressed to the named chief executives of eight hundred and forty seven organisations selected as a systematic random sample by Dun and Bradstreet. Dun and Bradstreet are an international credit rating company with the largest available database on U.K. businesses. Addressees were selected randomly from within each of the Standard Industrial Classification code groups shown in Table 5.2, with the condition that the companies selected should employ more than 100 employees.

<u>Sector</u>	<u>U.S. S.I.C. Code*</u>	<u>No. of Questionnaires Issued</u>
Manufacturing Consumer Products	(S.I.C. 20 to 25)	150
Manufacturing Industrial Products	(S.I.C. 27 to 36, 38, 39)	150
Trading	(S.I.C. 52 to 59)	150
Transport	(S.I.C. 40, 41, 4212, 4213, 4214, 4411, 4441, 4452, 4453, 4454, 4511, 5012)	150
Distribution	(S.I.C. 4311, 4712, 4723, 4789)	97
Services	(S.I.C. 70 to 97)	150

\* The Dun & Bradstreet database uses the U.S. S.I.C. coding system.

Table 5.2. The Composition of the Sample of Addressees used in the National Postal Survey

Potential respondents to the national postal survey were offered anonymity if they wished, and the opportunity to receive summary results was extended to any respondent who sent in a business card under separate cover. Samples of all the communications used in this second survey are given in Appendix II, whose contents are outlined below:



## Appendix II National Survey

Section II a National survey questionnaire.

Section II b National survey statistical calculations.

Section II c Sample of unsolicited letter regarding the questionnaire.

Ninety five questionnaires were returned, a response rate of 11.2%. This response rate is considerably lower than the 29% response rate achieved in the pilot postal survey, and the probable reasons for this are shown below:

- The pilot survey was addressed to executives who had a regional affinity with the University of Newcastle upon Tyne.

- The pilot survey was addressed to major companies in the North East of England, whilst the national survey was addressed to small as well as large companies. Notwithstanding this there is not a large difference in the average number of employees in the respondent samples from both groups (pilot respondents' average employees 697, national respondents' average employees 840). It is probable therefore that the lower response rate from the national survey is due to the fact that the smaller companies in the national sample (who accounted for a larger proportion of the sample) did not respond.

Both the pilot and the national survey were completed before the recession of the early 1990's bit, it is probable that if they had been carried out a year later (in 1991) the response rates would have been worse as executives would have been less inclined to take the time to complete the questionnaire.

The ninety five respondents who completed the questionnaires constituted a sample size which allowed the identification of some overall results which were statistically robust. In general the sectoral distribution was broad enough to allow inter-sector comparisons to be made, but statistical significance could not be claimed for all of these comparisons.

The composition of the completed questionnaires is shown in Table 5.3.

<u>Sector</u> (Identified by the respondents)	No.	No. of Questres. Issued	% Response
<i>Companies operating in one sector only</i>			
Manufacturing Consumer Products	10	150	7
Manufacturing Industrial Products	21	150	14
Retailing	10 )		
Other Trading	4 )	150	9
Transport/Distribution	16	247	6
Services	21	150	14
<i>Diversified Companies</i>	13		n/a*
	--		
Total	95		

\* It is not possible to identify the number of questionnaires sent to companies who would describe themselves as "Diversified".

Table 5.3. The Composition of the Respondents to the National Postal Survey

It is estimated that there was a total of approximately 41,000 legal units operating in the sectors surveyed in 1990 (Business Monitor, 1990). The total questionnaires distributed (947) therefore represent approximately 2% of the total population, and the respondents represent approximately 0.2% of the total population.

#### 5.4 THE SIX CASE STUDIES

The purpose of the case study stage of the empirical work was to broaden, and fill out, the knowledge gained of the perceptions of the postal survey respondents regarding the role of intangible resources. In addition the case studies aimed:

- to offer each respondent the opportunity for constructive contribution to the subject under investigation. In a postal survey a respondent is, to a large degree, limited to the "menu" offered in the questionnaire. In a case study interview the respondent has more opportunity to construct the "menu" himself.
- to explore the utility of the new analysis technique developed for identifying the sources of competitive advantage (based on the framework presented in Figure 4.2 ).

The seven companies who were asked to take part in the case study stage were selected because of their size, their known predisposition to co-operate in initiatives with the University of Newcastle upon Tyne, and because they are successful (i.e. they were both expanding and profitable). Three personnel directors, and four managing directors were approached. With the exception of one of the personnel directors they all agreed to participate in the study. The details of the companies agreeing to participate are shown in Table 5.4; due to the confidential nature of the exercise it was agreed that the companies would remain anonymous in any publication of the results.

<u>Company Code</u>	<u>Nature of Business</u>	<u>Sales (p.a.)</u> £ million	<u>Executive</u>
M 1	Motor Manufacturing	361	Personnel Director
M 2	Manufacturer of Branded Snack Foods	17	M.D.
M 3	Manufacturer of Branded Outdoor Clothing	16	M.D.
M + R	Baker and Retailer	87	M.D. (N.E.Div.)
T	Bus Company	45	M.D.
R	Supermkt. Retlr	231	Pers. Dir.

Table 5.4. The Companies which Co-operated in the Case Studies

Copies of all the correspondence carried out during the case study investigations are given in Appendix III, the contents of which are outlined below:

#### Appendix III Case Studies

Section III a Case study correspondence.

Section III b Feedback received from executives participating in the case studies.

The qualitative response in all stages was encouraging, and this gave some support to the belief that the subject was pertinent. The response rate of 29% in the pilot survey was encouraging. The lower response rate of 11% in the national survey was anticipated due to the more random nature of the sample addressed. With respect to the case study exercise seven companies were approached, and six agreed to participate.

The detailed quantitative results are examined in the following Chapters.

## CHAPTER 6 THE FINDINGS OF THE PILOT SURVEY

### 6.1 INTRODUCTION

The purpose of this Chapter is to present the results obtained from the pilot postal survey. Because of the sample size (29 respondents) the data obtained from this survey has not been analysed in as much detail as that obtained from the national sample (95 respondents).

The only executive who can be responsible for the totality of intangible resources, from patents to company reputation, is the Chief Executive Officer (C.E.O.). The pilot survey was therefore addressed to C.E.O.'s and it set out:

- to determine the chief executives' perception of the relative importance of the contributions which these resources make to the success of the business.
- to identify the typical replacement periods which the C.E.O associated with these resources.
- to identify the lead, or lag, in know-how which the C.E.O. estimated existed over the main competitor.
- to identify the C.E.O.'s views on whether the "stock" of intellectual resources had changed in the '87-'90 period.

The questionnaire possessed a longitudinal dimension in so far as some data was elicited both for 1987, and for 1990, (this data related to: sales, employees, and the importance of the contribution which each resource made to the success of the business). A copy of the questionnaire is included in Appendix I.

Of the 100 questionnaires distributed 29 were returned. This response rate was very encouraging in as much as it

indicated that a significant proportion of the addressees both understood the subject matter, and thought it to be of sufficient importance to take the time to contribute to the survey. It must be acknowledged however that the individuals approached probably have an affinity for the University of Newcastle upon Tyne because it is their local university.

The composition of the respondents is shown in Table 6.1

<u>Sector*</u>		<u>Status*</u>	
Manufacturing	17	Independent	15
Trading	9	Subsidiary	14
Services	2		
Transport	1		
	—		—
Total	29		29

\* Identified by the respondent.

The average number of employees was 697.

Table 6.1. Composition of Completed Questionnaires  
by Sector & Status

## 6.2 THE RELATIVE CONTRIBUTION WHICH INTANGIBLE RESOURCES MAKE TO THE SUCCESS OF THE BUSINESS

The first question:

" What contribution did (in 1987), and does (in 1990), the Reputation of your Company make to the overall success of the business ?"

was also asked with respect to the following ten resources: Reputation of your Company's Products; Know-how of your Employees; Know-how of your Suppliers; Know-how of your Distributors; Networks; Public Knowledge; Trade Secrets; Contracts; Intellectual Property; Specialist Physical Resources.

The importance of the contribution which each intangible resource is reported as making (in 1990) to the overall success of the business is shown in Table 6.2.

	Average Importance	
	<u>Ranking</u>	<u>Rating</u> (Insignificant 1, Crucial 5)
Company Reputation	1	4.3
Employee Know-how	1	4.3
Product Reputation	1	4.3
Networks	4	3.9
Specialist Physical Resources	5	3.5
Supplier Know-how	6	3.3
Intellectual Property Rights	7	2.9
Contracts	7	2.9
Distributor Know-how	9	2.7
Trade Secrets	9	2.7
Public Knowledge	11	2.5

Table 6.2. The Relative Importance of the Contribution made by each Intangible Resource to the overall Success of the Business in 1990 (Total Sample; N = 29)

This analysis of the total sample shows "Company Reputation", "Employee Know-how", and "Product Reputation" as the most important contributors to company success.

The consistency of the scoring of each of the three top ranked intangible resources is illustrated in Charts 6.1, 6.2 and 6.3.

THE WEIGHTING SCORES ASSIGNED TO COMPANY REPUTATION WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS

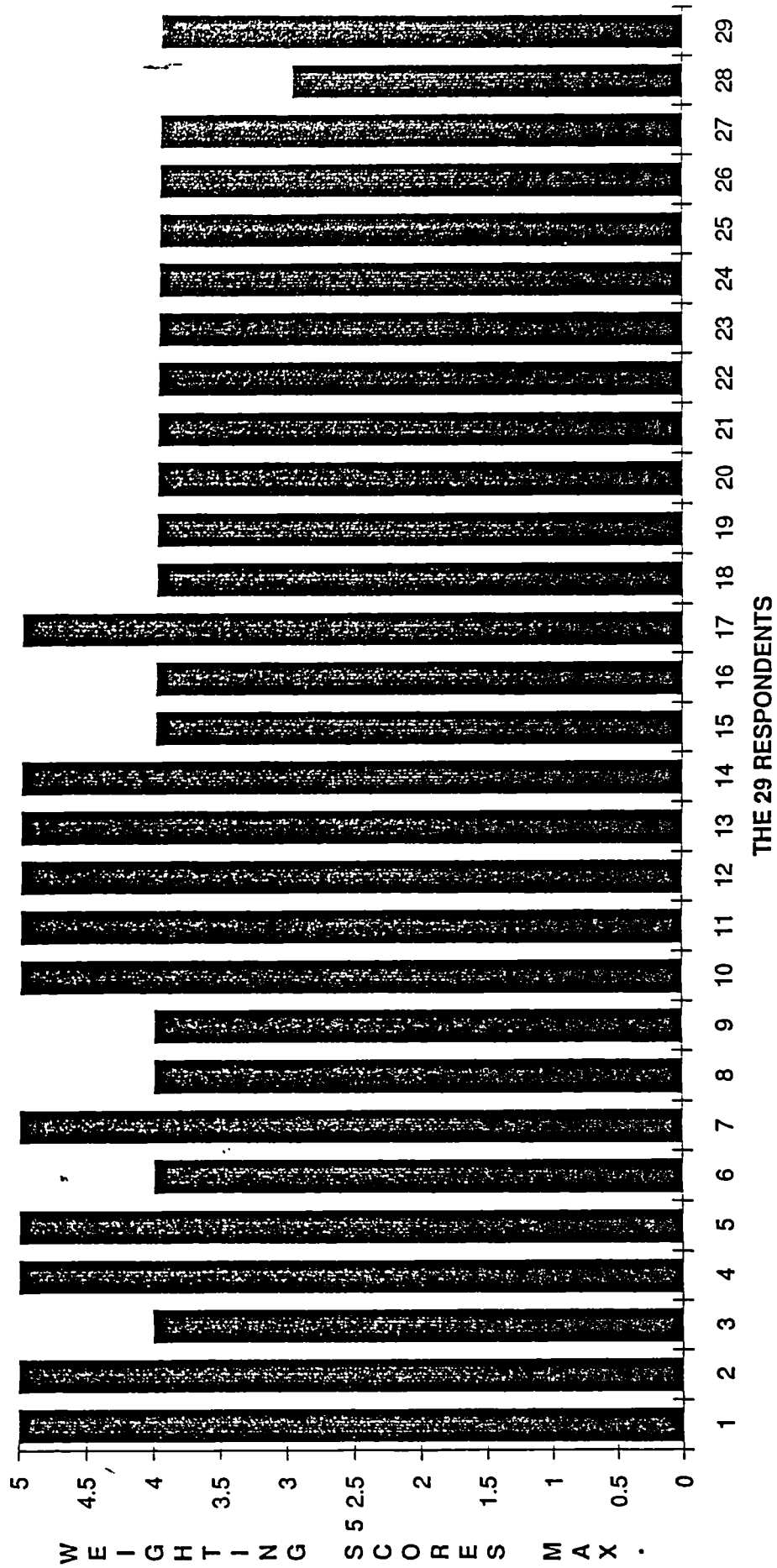
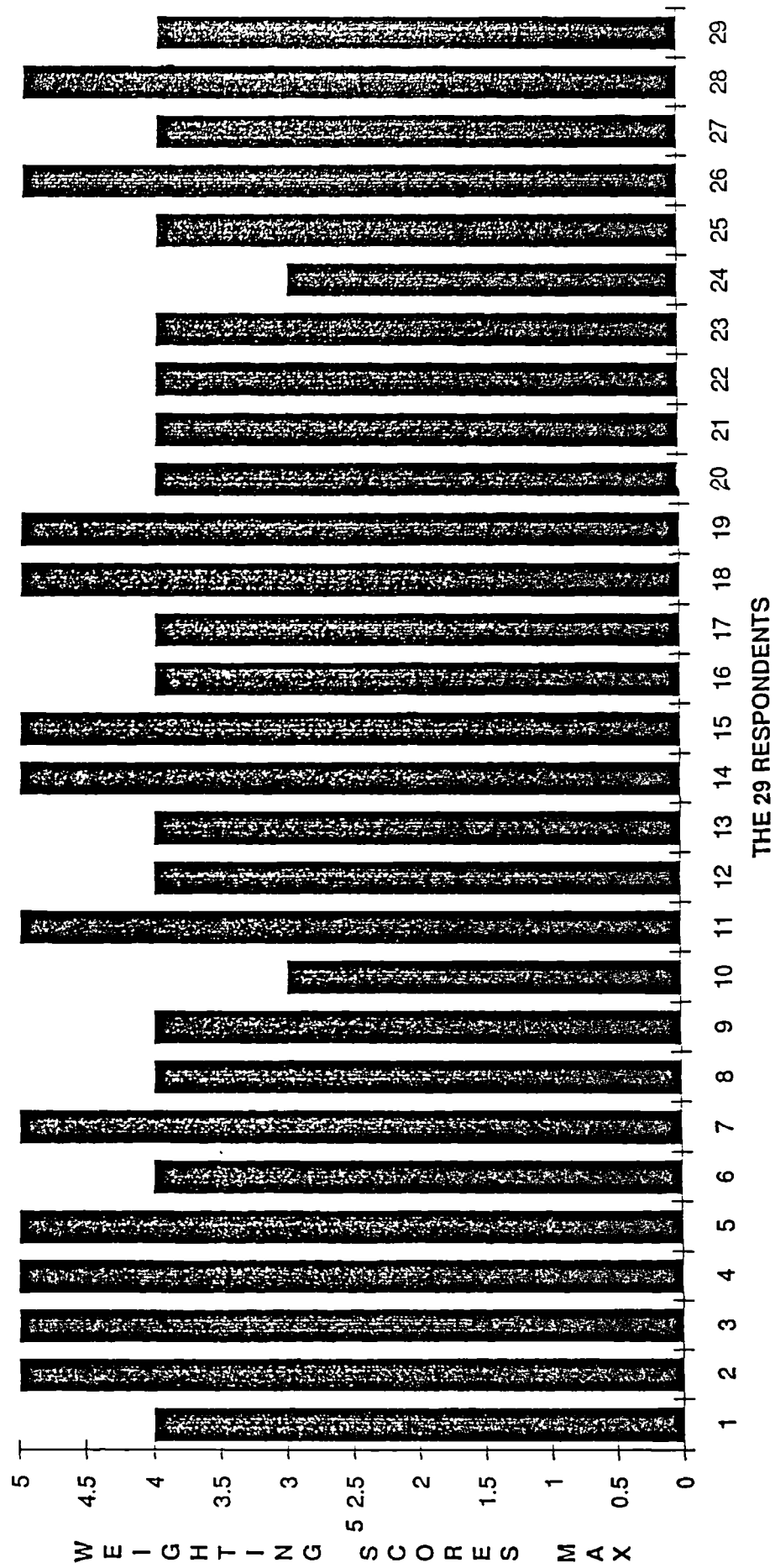


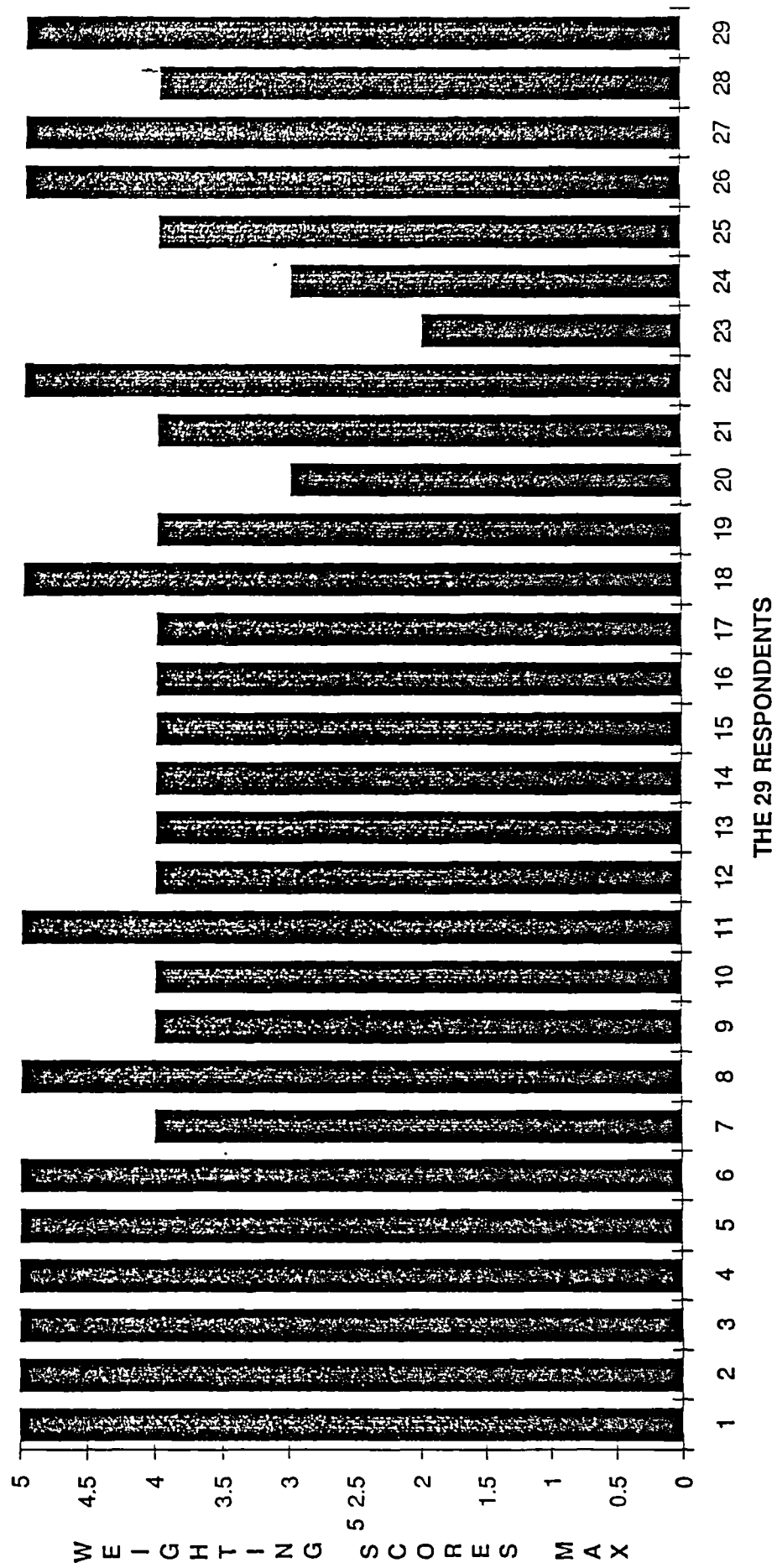


CHART 6.2

THE WEIGHTING SCORES ASSIGNED TO EMPLOYEE KNOW-HOW WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS



THE WEIGHTING SCORES ASSIGNED TO PRODUCT REPUTATION WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS



The scores given for 1987 are compared with those given for 1990 in Table 6.3.

	<u>Average Importance Weighting</u> (Insignificant 1, Crucial 5)		
	1987	1990	% Change
Company Reputation	4.0	4.3	8
Employee Know-how	3.9	4.3	10
Product Reputation	3.9	4.3	10
Networks	3.5	3.9	11
Specialist Physical Resources	2.9	3.5	21
Supplier Know-how	3.1	3.3	6
Intellectual Property Rights	2.4	2.9	21
Contracts	2.4	2.9	21
Distributor Know-how	2.6	2.7	4
Trade Secrets	2.5	2.7	8
Public Knowledge	2.2	2.5	14

Table 6.3 The Relative Importance of the Contribution made by each Intangible Resource to the overall Success of the Business in 1987 and 1990 (Total Sample; N = 29)

The three resources whose scores appear to have increased the most in importance between 1987 and 1990 are "Specialist Physical Resources", "Intellectual Property Rights" and "Contracts". Whilst these resources may be characterised as being the most clearly defensible in law it is not possible to identify this as a reason why these resources have increased in importance more than the others.

The significance of the weighting given to: "Company Reputation", "Employee Know-how", "Product Reputation",

and "Networks" is a vis that given to "Specialist Physical Resources" may be tested by means of the "Sign Test".

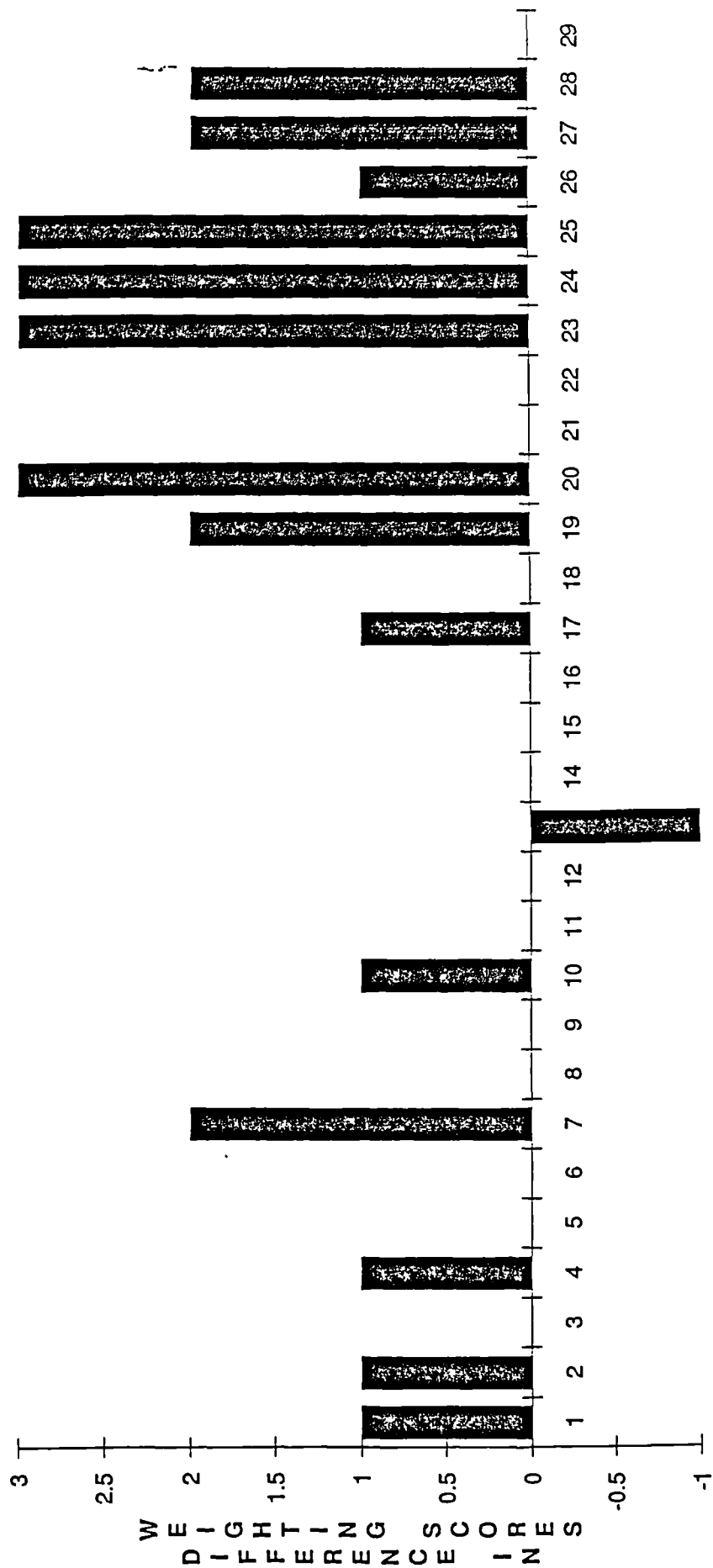
This test consists of examining the 29 pairs of scores which the 29 respondents gave to, for example, "Company Reputation" and "Specialist Physical Resources". If the scoring were random one would expect an equal number of respondents to rate one resource higher than the other; e.g. 14 might rate "Company Reputation" as the more important, and 15 might rate "Specialist Physical Resources" as the more important. The extent to which the number of signs (+ if a score is higher than the other; - if the score is lower than the other ) are unequal gives a measure of the significance of the ratings. The test determines the probability of the hypothesis "That the scorings are random" being incorrect.

The "Sign Test" overcomes the criticism that a weighting score of 4 given by one respondent may mean something different to a weighting score of 4 given by another respondent. The test compares the relative scores of each individual respondent and does not rely on comparisons between respondents. The results of these "Difference" or "Sign Tests" are shown in Charts 6.4 to 6.7. The statistical calculations for the "Sign Test" are given in Appendix I. The calculations produce the following results :

At a 95% significance level the resources of "Company Reputation", "Employee Know-how" and "Product Reputation", are identified as making a more important contribution to business success than "Specialist Physical Resources".

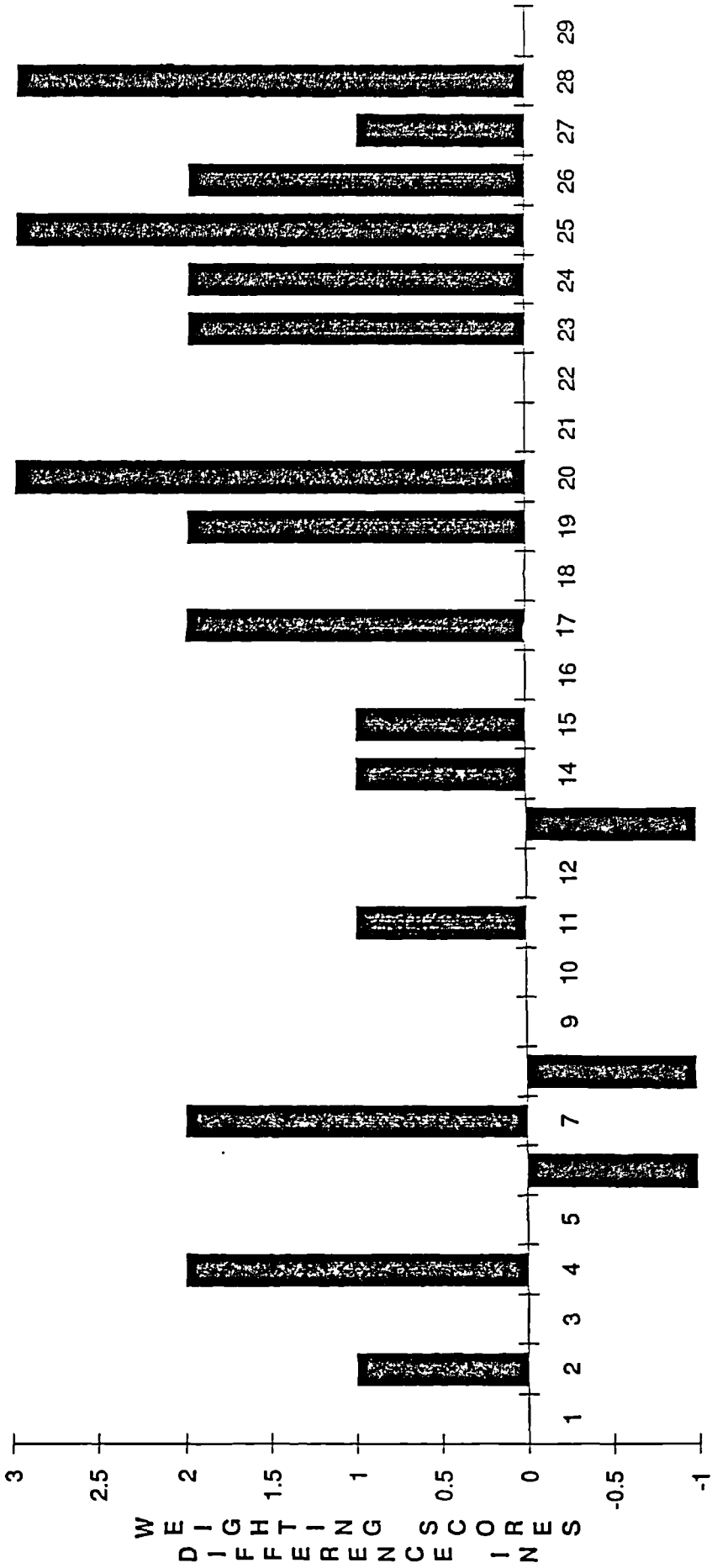
At a 95% significance level the resource of "Networks" (and by inference the other resources surveyed), cannot be identified as making a more important contribution to business success than "Specialist Physical Resources".

SIGN TEST : DIFFERENCE IN PAIRED SCORES : "COMPANY REPUTATION - SPEC. PHYSICAL RESOURCES



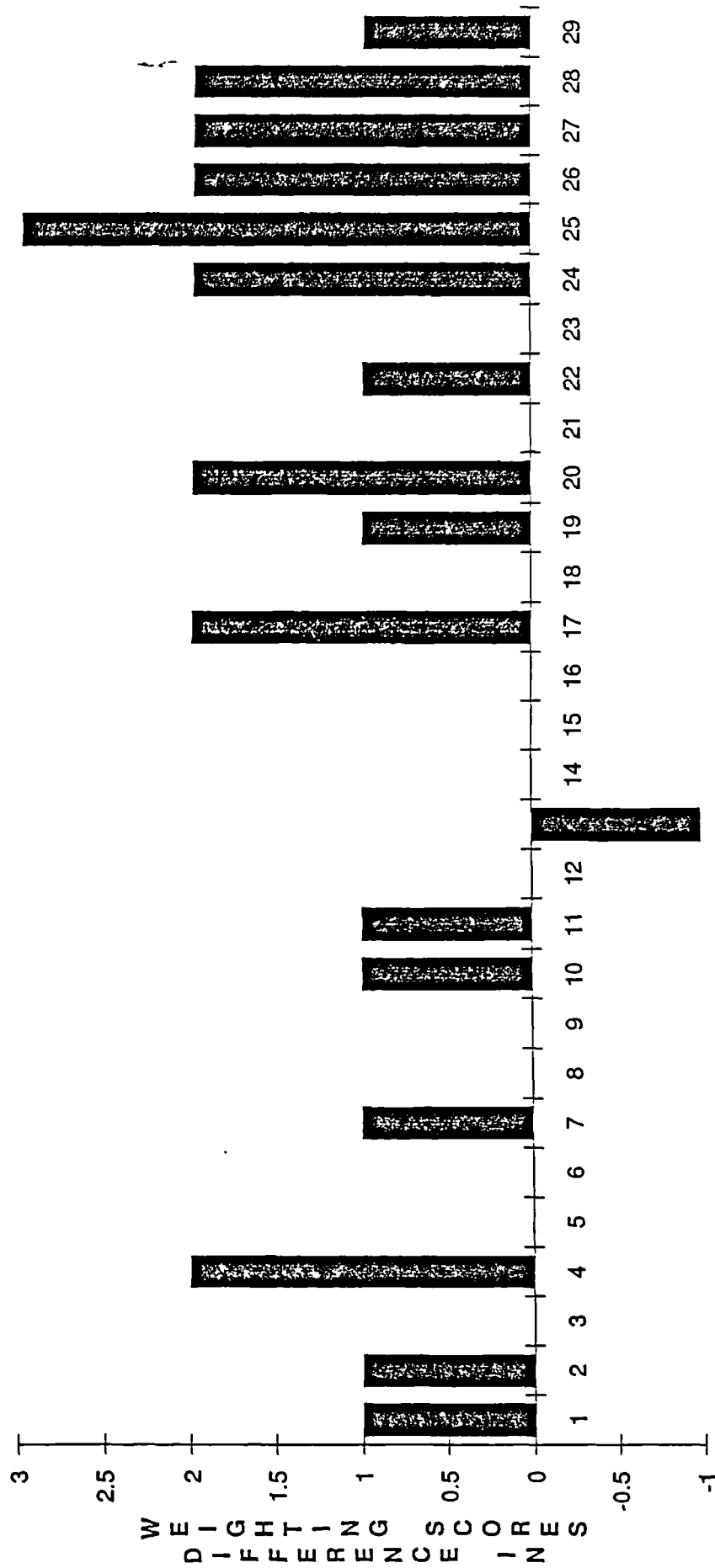
29 PAIRED COMPARISONS FROM 29 RESPONDENTS

SIGN TEST : DIFFERENCE IN PAIRED SCORES : " EMPLOYEE KNOW-HOW - SPECIALIST  
PHYSICAL RESOURCES"

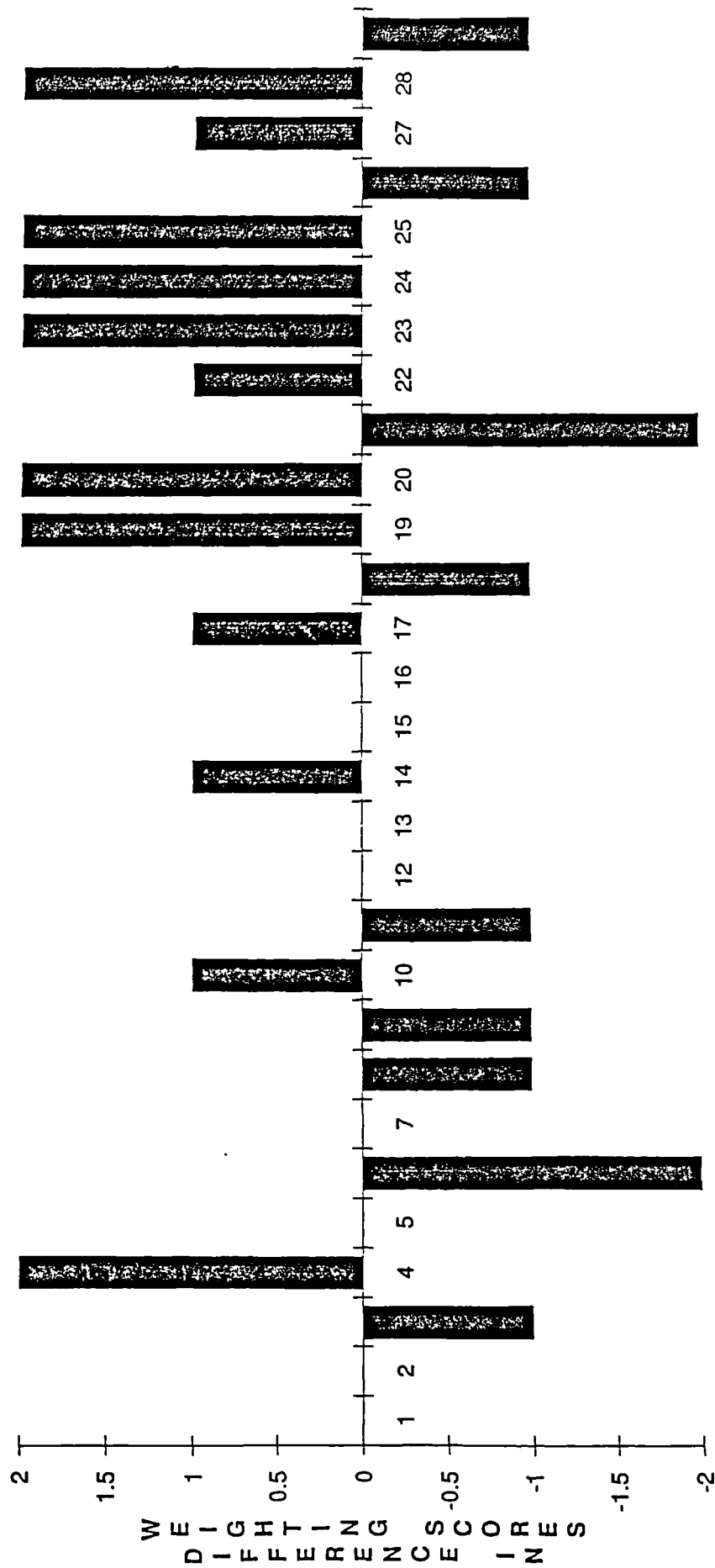


29 PAIRED COMPARISONS FROM 29 RESPONDENTS

SIGN TEST : DIFFERENCE IN PAIRED SCORES : "PRODUCT REPUTATION - SPECIALIST  
PHYSICAL RESOURCES"



SIGN TEST : DIFFERENCE IN PAIRED SCORES : "NETWORKS - SPECIALIST PHYSICAL RESOURCES"



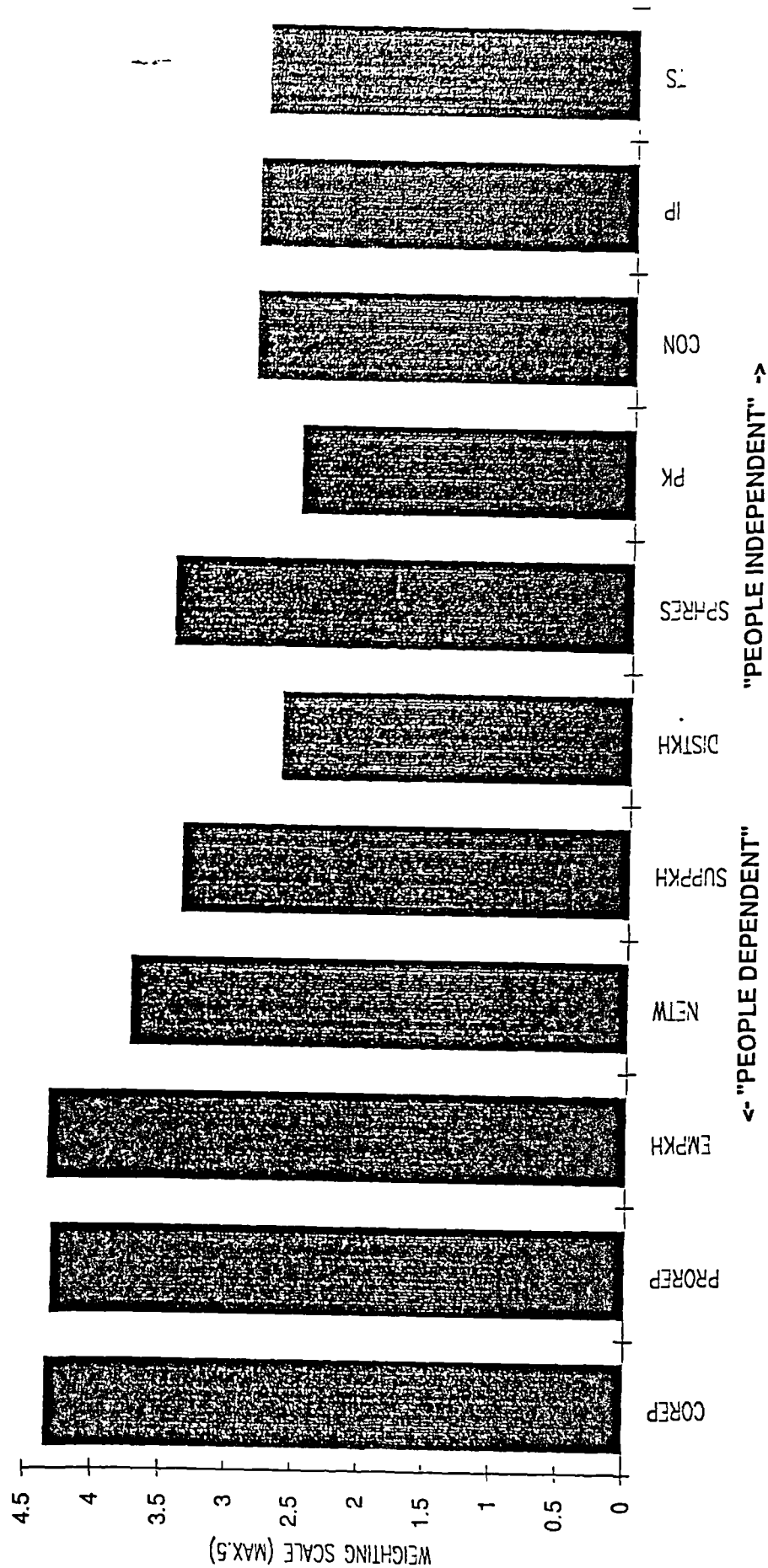
29 PAIRED COMPARISONS FROM 29 RESPONDENTS



### *People Dependent and People Independent Resources*

The resources were sorted into the "People Dependent" and "People Independent" categories, and the overall average scores for each resource within the two categories are shown in Chart 6.8. This chart clearly demonstrates that, in aggregate the "People Dependent" resources are perceived as making a more important contribution to business success than the "People Independent" resources.

THE AVERAGE WEIGHTINGS GIVEN TO "PEOPLE DEPENDENT" AND "PEOPLE INDEPENDENT" RESOURCES WITH RESPECT TO THE CONTRIBUTION THEY MAKE TO BUSINESS SUCCESS



### 6.3 THE REPLACEMENT PERIODS ASSOCIATED WITH INTANGIBLE RESOURCES

The second question:

" Given a reasonably high priority how many years would it take to recreate the current *"Reputation of your Company"* if you had to start from scratch?"

was also asked with respect to: *The Reputation of your Product Range; The Know-how of your Employees; The Know-how of your Suppliers; The Know-how of your Distributors; Networks.* (Total Sample; N = 29)

The average replacement period estimated for each intangible resource is shown in Table 6.4.

	<u>Ranking</u>	<u>Replacement</u> <u>Period</u> <u>(Yrs.)</u>
Company Reputation	1	7.0
Product Reputation	2	6.3
Employee Know-how	3	4.2
Supplier Know-how	4	3.5
Networks	5	2.8
Distributor Know-how	6	2.5

Table 6.4. Replacement Periods

The three intangible resources which were rated as most important in question 1: "Company Reputation", "Product Reputation", and "Employee Know-how", were also perceived as having the longest replacement periods, with reputation significantly longer than the rest.

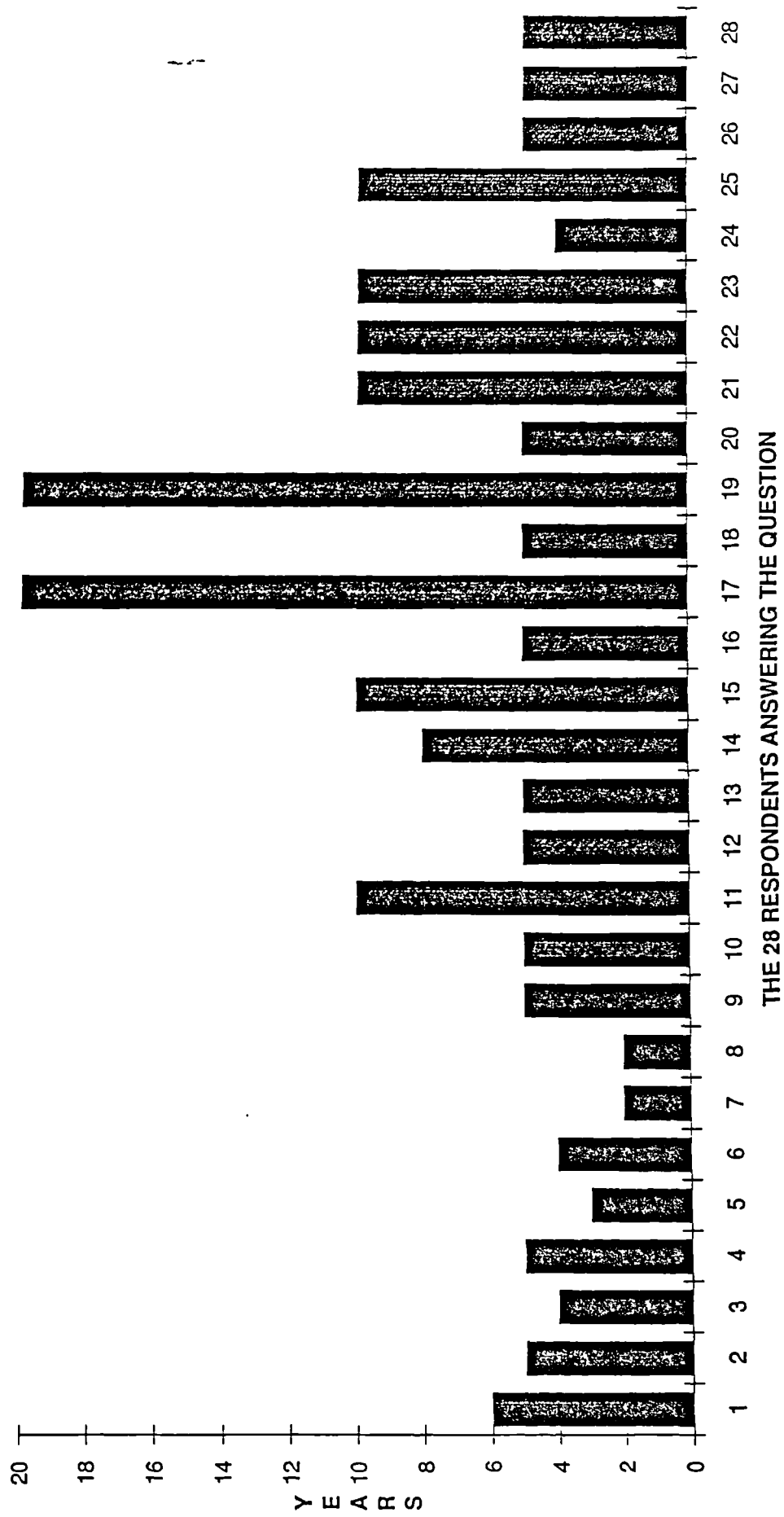
The average replacement periods shown for reputation are approximately 50% greater than that shown for employee know-how. This suggests that chief executives

are more sanguine about "growing" employee know-how than they are about recreating the reputations enjoyed by either their company or their products. This is probably because the elements of skill and experience which comprise know-how are more manageable than reputation which exists in the minds of current and potential customers.

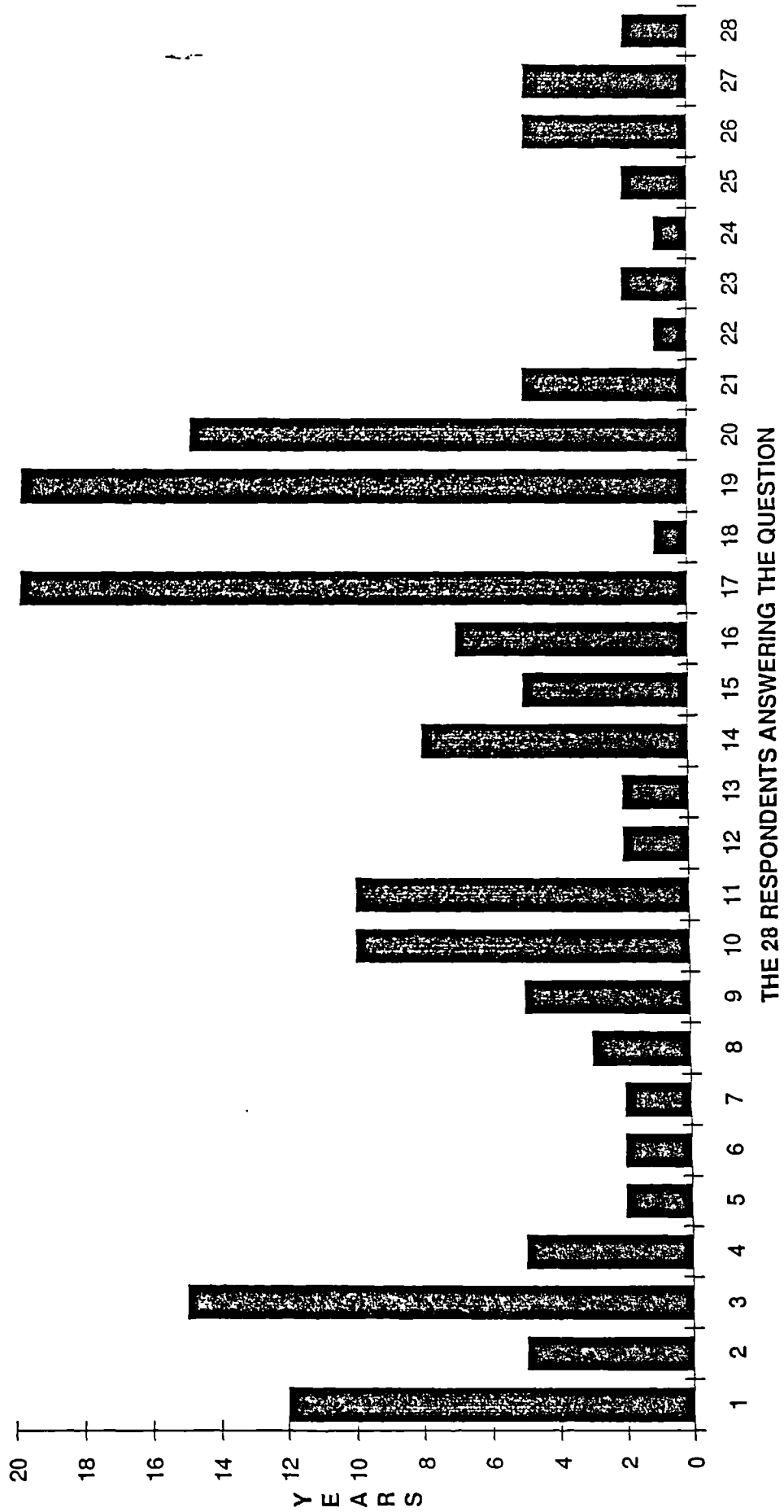
It seems that the three most important contributors to business success are also the resources which can contribute to a defensible position by virtue of the long time it would take a new entrant, starting from scratch, to match the capability.

The individual replacement periods estimated by each respondent for "Company Reputation", "Product Reputation", and "Employee Know-how" are shown in Charts 6.9, 6.10, and 6.11. The charts show that whilst the averages and the distributions of the replacement periods for "Company Reputation" and "Product Reputation" are similar, there is a wider range of estimates associated with the replacement periods for "Product Reputation". Seven of the eleven companies estimating only 1 or 2 years as the replacement period for "Product Reputation" were in the trading, transport or service sectors where it can be argued that the reputation of an intangible product is subordinate to that of the company.

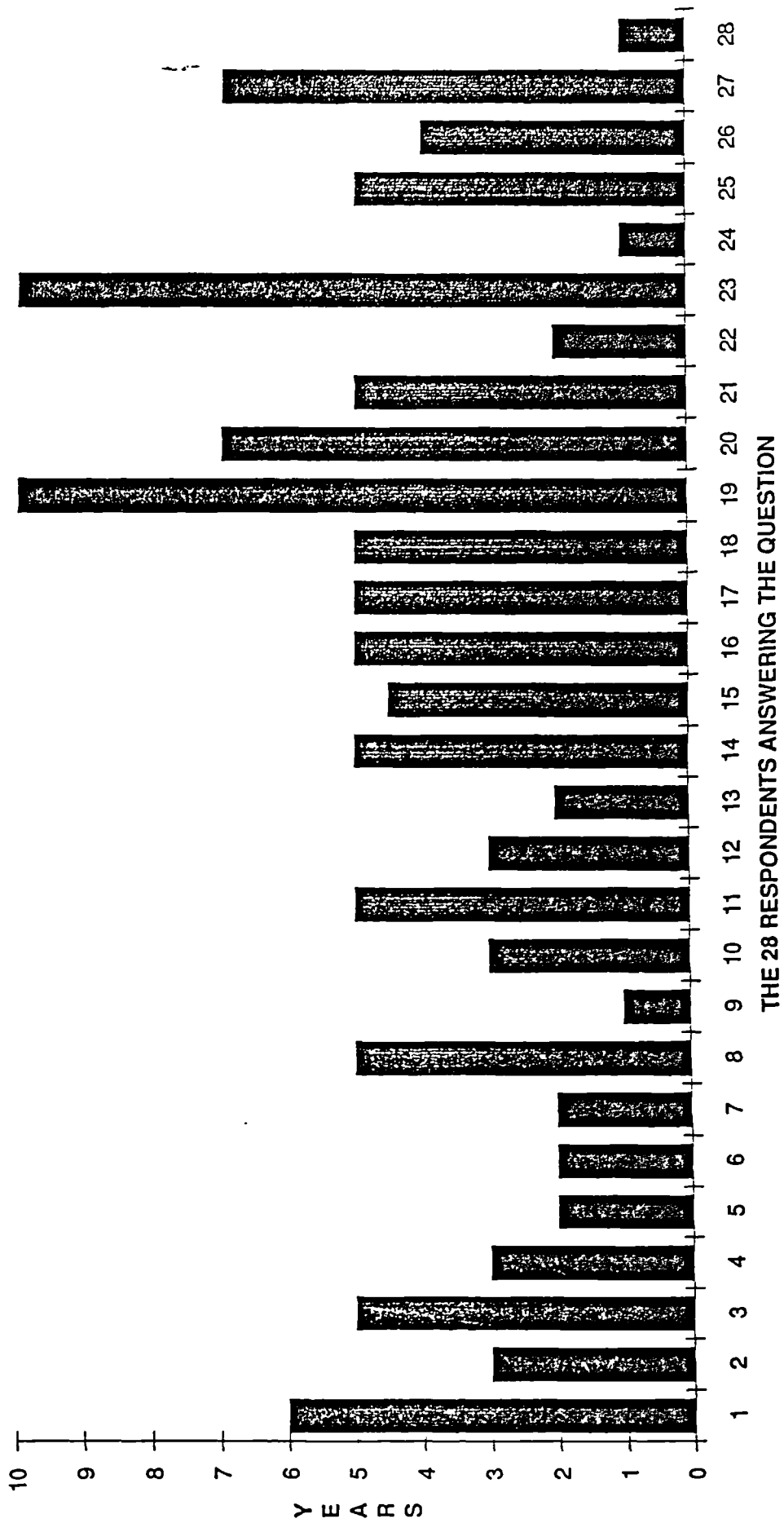
THE REPLACEMENT PERIODS ESTIMATED FOR "COMPANY REPUTATION"



THE REPLACEMENT PERIODS ESTIMATED FOR "PRODUCT REPUTATION"



THE REPLACEMENT PERIODS ESTIMATED FOR "EMPLOYEE KNOW-HOW"



#### 6.4 LEAD IN KNOW-HOW OVER THE COMPETITION

The third question:

"How many years are you currently ahead/behind your main competitor with respect to *"Key Know-How of Employees"?*"

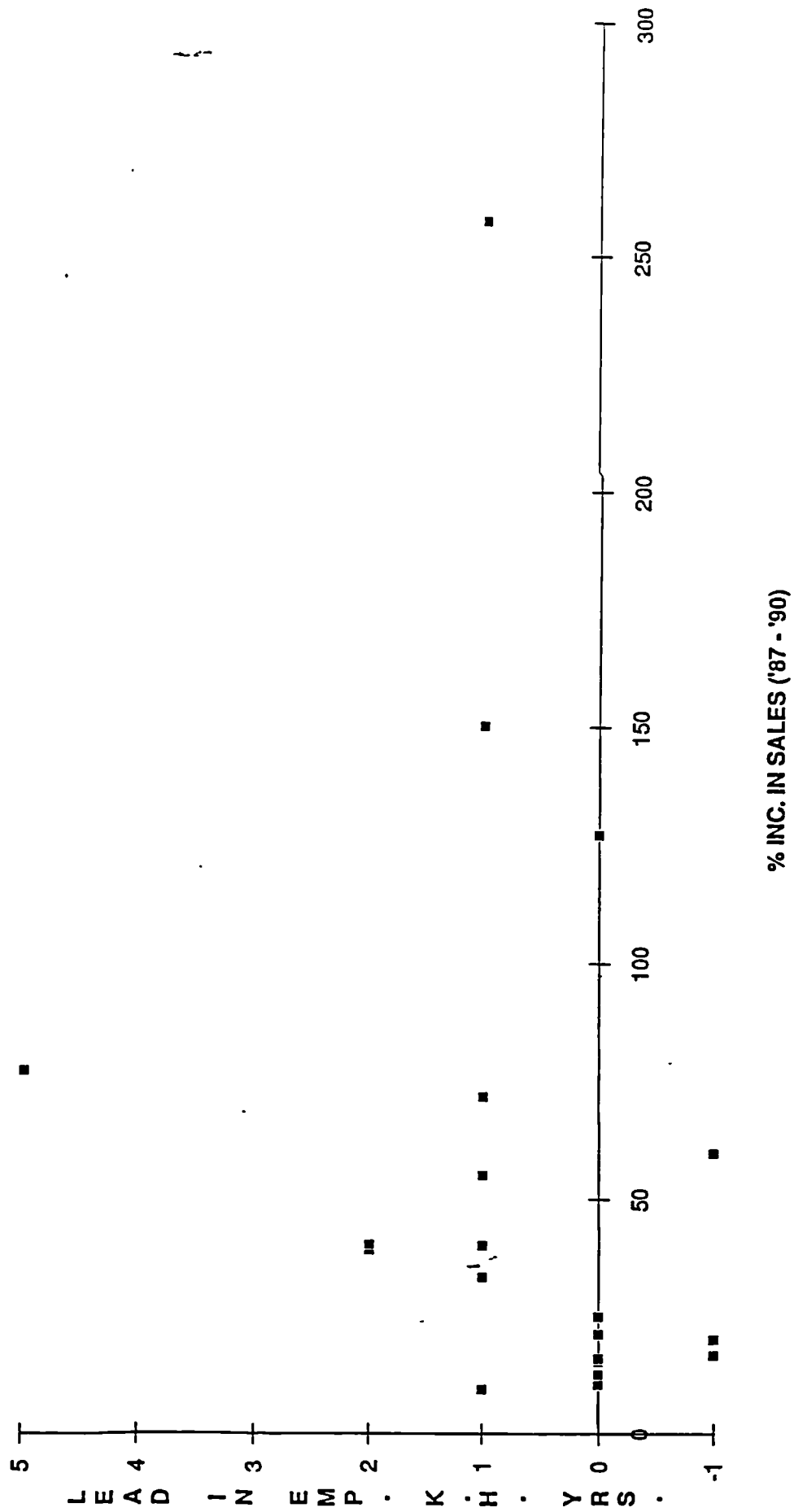
was also asked with respect to: *Key Know-how of Suppliers; Key Know-how of Distributors; Networks.*"

In view of the fact that the growth in sales in the period 1987 - 1990 could be identified for each respondent, the possibility of a correlation between "Sales Growth" and "Lead in Employee Know-how over Main Competitor" was investigated. No such correlation could be established. The lack of any such relationship is illustrated in Chart 6.12.

It is probable that sales growth from 1987 to 1990 was influenced more by macro economic conditions than by anything else. It can also be argued that it would be more logical to seek a correlation between "Lead in Employee Know-how" and "Market Share"; unfortunately market share data was not available.



LEAD IN EMPLOYEE KNOW-HOW VS INCREASE IN SALES ('87 - '90)



## 6.5 THE ACCUMULATION OF INTELLECTUAL RESOURCES

The final question in the survey was:

"The factors which have been the subject of this questionnaire, i.e. Reputation, Know-how, Networks, Trade Secrets, Contracts and Intellectual Property have been described as "Intellectual Resources". If it is possible to think in terms of the "stock" of Intellectual Resources which your company owns, can you estimate the movement in the level of this "stock" in your company in the last three years"

The responses to this question, analysed by the "Low", "Medium" and "High" sales growth groups, are shown in Table 6.5:

Change in "Stock"	Low Sales Growth	Medium Sales Growth	High Sales Growth	Total
Significant Growth	nil	1	5	6
Growth	5	8	6	19
No Change	1	2	1	4
	--	--	--	--
Total	6	11	12	29

Table 6.5 The Distribution of Companies Reporting a change in the "Stock" of Intellectual Resources

It is tempting to infer a significance in the fact that 20 of the 29 companies which had "Medium" or High Sales Growth" reported "Growth" or "Significant Growth" in the "stock" of intellectual resources; however the numbers are too small to allow a Chi <sup>2</sup> significance test.

## 6.6 CONCLUSION TO CHAPTER 6

The main conclusion which should be drawn from the results of the pilot survey is that this new approach to strategic management is perceived as having some

relevance, and that there is a degree of unanimity in the perceptions of the respondents with respect to the intangible resources which make the most important contributions to business success. Specifically the resources of "Company Reputation", "Employee Know-how" and "Product Reputation" are ranked as making a more important contribution to business success than "Specialist Physical Resources" by a statistically significant number of respondents.

The results of this pilot survey are compared with those of the national survey in Chapter 8.

## CHAPTER 7 THE FINDINGS OF THE NATIONAL SURVEY

### 7.1 INTRODUCTION

The purpose of this Chapter is to present the analyses which have been carried out on the results of the national survey.

The data contained in the questionnaires was entered onto an "Excel" spreadsheet, and as a result much analysis in terms of ranking, sorting and charting was possible.

### 7.2 THE QUESTIONS ASKED

The national survey posed similar questions as the pilot survey, and in addition two new categories of intangible resource were introduced: "Databases" and "Culture". Where it was appropriate to do so questions included these new factors. The inclusion of these new factors was prompted by the literature review which had proceeded in parallel with the pilot survey. The other change made to the questionnaire for the national survey was with respect to the weighting scale which was changed from:

Insignificant 1; Crucial 5 in the pilot survey  
to Insignificant 1; Crucial 10 in the national survey.

This change in scoring convention was to enable respondents to make a wider range of scores.

The questionnaire itself is given in Appendix II. The questions asked in the national survey are summarised, and any changes made to the pilot survey questions are commented upon, in sections, 7.2.1 to 7.2.5.

### 7.2.1 About the Organisation

Respondents were asked to identify the following facts about the business for which they were responsible:

- \* Sector - manufacturing, retailing etc.
- \* Status - independent or subsidiary  
( if subsidiary the nationality of the parent)  
- licensor or licensee (if appropriate)
- \* Size:    1987   Sales   £ ...    Employees ...  
             1990   Sales   £ ...    Employees ...

The data relating to sales enabled sales performance groups to be identified by calculating the change in sales 1987 to 1990.

### 7.2.2 Contribution to the Success of the Business

The purpose of this section of the questionnaire was to establish the relative importance of the contribution made by intangible resources to business success; overall, within and between sectors and within and between performance groups.

The question was:

" What contribution did (in 1987), and does (in 1990), the '*reputation of your company*' make to the overall success of the business ?" A total of 13 factors were surveyed: *Reputation of Company, Reputation of Products, Know-how of Employees, Know-how of Suppliers, Know-how of Distributors, Culture of Organisation, Networks, Public Knowledge, Trade Secrets, Contracts, Specialist Physical Resources, Intellectual Property, Databases.*

The contribution was weighted according to the scale: Insignificant "1", Crucial "10".

Two new subsidiary questions were introduced to this section for the national survey. These were:

7.2.2.1 Regarding the Most Important Area of  
Employee Know-how.

"Which is the most important area of employee know-how: *Operations, Sales/Marketing, Finance, Technology, or Other?*" (Mark one only)

The purpose of question 7.2.2.1 was to investigate the overall ranking which respondents assigned to the different functions, and to investigate the degree to which perceptions varied between sectors, and sales growth groups. The question related to the situation in 1990 only.

7.2.2.2 Regarding Intellectual Property

"What contribution to company success did the following categories of intellectual property make: *Patents, Registered Designs, Copyright, Registered Trademarks, Unregistered Brand names?*"

The purpose of question 7.2.2.2 was to investigate the importance assigned to intellectual property rights, and to investigate the degree to which perceptions varied between sectors, sales growth groups, licensors and licensees.

7.2.3 Replacement Period

The purpose of this section of the questionnaire was to establish to what extent the replacement period associated with intangible resources could be construed as contributing to the achievement of a defendable competitive advantage. Resources which have a long replacement period can contribute to the defendability of competitive advantage by virtue of the fact that it would take a competitor, starting from scratch, a long time to equal the capability.

" Given a reasonably high priority how many years would it take to recreate the current 'reputation of your company' if you had to start from scratch?"

A total of 7 factors were surveyed: *Reputation of Company, Reputation of Products, Know-how of Employees, Know-how of Distributors, Know-how of Suppliers, Networks, Databases.*

#### 7.2.4 Years Lead, or Lag, over Main Competitor with respect to each Intangible Resource.

The purpose of this section of the questionnaire was to investigate both the absolute size of the lead, or lag, (in years), and the existence of any correlation between the perceived lead, or lag, over competitors and growth, or decline, in sales. The question was:

"How many years are you currently ahead/behind your main competitor with respect to: *Know-how of Employees, Know-how of Suppliers, Know-how of Distributors, Networks, Databases ?*"

#### 7.2.5 Intangible Resources and Distinctive Competence

This last question was introduced for the national survey; it concerned intangible resources and distinctive competence; it was designed to further reinforce the data received from section 7.2.2 regarding the intangible resources which are crucial to success. The question was:

"The success of your operations may be measured in various ways, e.g. profitability, growth, financial strength etc.. The sustained achievement of one, or more, of these measures of success will be due to a superior capability or a *distinctive competence*. "If it is possible to do so please indicate which of the following categories has been the single most important resource with respect to your distinctive competence: *Databases, Contracts, Public Knowledge, Company Reputation, Know-how, Networks, Intellectual Property Rights, Product Range Reputation, Company Culture, Specialist Physical Resources, Total Quality Capability, Not Applicable ?*" (Mark one only)

The question went on to ask:

"If it is possible to think in terms of the "quantity" and "quality" of the one key resource identified above, can you indicate how it has changed in the last three years:

Significant Enhancement  
Enhancement  
No Change  
Decline  
Not Applicable

This question regarding the change in 'quantity' and "quality" of the one key resource was designed to relate to the issue identified by Itami and Roehl (1987) regarding the importance of treating know-how as a resource whose "stock" could both increase, or decrease, in terms of quantity and quality.

### 7.3 THE NATURE OF THE SAMPLE OF RESPONDENTS

The survey was addressed to 847 chief executives throughout the U.K. representing the six sectors defined in Chapter 5. The names and addresses were supplied by Dun and Bradstreet Limited who made random selections from specified Standard Industrial Classification numbers (see Chapter 5), with the sole condition that the organisations should employ more than 100 people. Ninety five executives responded to the questionnaire (a response rate of 11.2%) The composition of the respondents is shown in Table 7.1



<u>Sector Category</u> (Identified by Respondent)	<u>No. of</u> <u>Co.'s</u>	<u>No. Employees</u>		
		<u>Min.</u>	<u>Max.</u>	<u>Av.</u>
<i>Companies operating in one sector only</i>				
Manufacturing Consumer Products	10	109	5,500	899
Manufacturing Industrial Products	21	45*	7,500	1,493
Retailing	10	100	340	189
Other Trading	4**	100	207	154
Transport	16	34*	876	391
Services	21	19*	7,500	1,102
 <i>Diversified Companies***</i>	 13	 80	 940	 373
	---	---	-----	---
<u>Total</u>	95	19	7,500	840

Table 7.1. The Composition of Respondents

\* Whilst Dun and Bradstreet believed that the addressees represented companies with more than 100 employees, 8 of the 95 respondents reported employing less than 100, and 3 reported employing less than 50. In view of the fact that number of employees was not a critical characteristic of the survey these companies have been included in the results.

\*\*The size of the "Other Trading" group is so small (4) that whilst it is included in all totals, the detail of the group is usually not shown in the analyses by sector which follow. The "Other Trading" group was not included with the "Retailing" group because it can be argued that the most significant characteristic of "Retailing" companies is the fact that they deal in consumer products. Whilst the "Other Trading" group may include wholesalers dealing in consumer products, it is as likely to contain distributors dealing in industrial products.

\*\*\* The respondents classified as "Diversified" were

those who indicated that they operated in more than one sector. Whilst the design of the questionnaire anticipated this situation by asking respondents to indicate which was the most important sector for them if they operated in more than one; some correspondents did not indicate the dominant sector. The "Diversified" category was introduced for those companies which did not identify a dominant sector. Where respondents indicated a dominant sector their responses were classified by that sector.

It was possible to group respondents by sales growth, as well as by sector. This grouping is shown in Table 7.2

<u>Classification A</u>			
Low Growth	: Sales Increase '87-'90	< 30% (N = 27)	
Medium Growth	: Sales Increase '87-'90	30% - 60% (N = 25)	
High Growth	: Sales Increase '87-'90	> 60% (N = 30)	
Total			82*
<u>Classification B</u>			
Low Growth	: Sales Increase '87-'90	< 43% (N = 41)	
High Growth	: Sales Increase '87-'90	> 43% (N = 41)	
Total			82*

Table 7.2. Performance Categories

\* Not all respondents gave sales figures, and the total sample which could be analysed by sales performance numbered 82, as opposed to the total sample of respondents of 95.

The movement in the Retail Price Index from June '87 to June '90 was 24.3 %. 18 companies in the sample (22% of the sample total of 82) were in real decline in the period (sales growth < 25%). The composition of these 18 companies by sector is shown in Table 7.3.

<u>Sector</u>	<u>Number</u>	<u>% of Sub-set Total</u>
Manufacturing Consumer Products	2	25
Manufacturing Industrial Products	4	21
Retailing	3	30
Other Trading	0	0
Transport	3	27
Services	0	0
Diversified Companies	6	55
	--	--
Total	18	22

Table 7.3 The Composition of those Companies with Sales Growth < 25% in the Period '87 - '90

It is surprising that 22% of the respondents who gave sales data were in real decline in the period, which was prior to the recession of 1991/92. The large proportion (55%) of "Diversified" companies in decline echoes the "Conglomerate Discount" which operated on the U.K. and U.S stock market during this period, but no significance is attached to this result.

The questionnaire responses also allowed the calculation of a productivity performance indicator based on: "Increase in sales/employee; 1987 - 90". Low, medium and high performance groups based on this indicator were examined during the spreadsheet analysis. The results did not give any additional insight over that obtained from the analyses based on sales performance.

The distribution of the low, medium and high sales growth companies over the different sectors is shown in Table 7.4.

	Performance Group			Total	
	Low	Medium	High	No.	%
Mfg. Cons. Prods.	No. 3 % 38	3 38	2 24	8 100	10
Mfg. Indl. Prods.	No. 6 % 32	8 42	5 26	19 100	23
Retailing	No. 4 % 40	5 50	1 10	10 100	12
Other Trdg.	No. 0 % 0	2 100	0 0	2 100	2
Transport	No. 3 % 27	3 27	5 46	11 100	13
Services	No. 4 % 19	3 14	14 67	21 100	27
Diversified	No. 7 % 64	1 9	3 27	11 100	13
	--	--	--	--	---
Totals	No. 27 % 33	25 30	30 37	82 100	100

Table 7.4: The distribution of low, medium and high performance companies over the different sectors

The performance criteria were chosen so that the three groups, in aggregate, were of similar size; low 33%, medium 30% and high 37%.

Some of the sectors have a skewed distribution between the three performance categories, but the only group which is large enough to warrant comment is the "Services" group. The "Services" sector group contains a disproportionate number of companies in the high growth category. This is to be expected for the period in question. In order to carry out a Chi <sup>2</sup> test (which requires individual numbers to be greater than 5) the data was represented using the sales growth "B" Classification. This analysis is shown in

Table 7.5.

	<u>Low Sales Growth</u> < 43% ('87-'90)	<u>High Sales Growth</u> > 43% ('87-'90)
Number of Service Sector cos.	6	15

Table 7.5. Service Sector Companies analysed by Sales Growth

A Chi <sup>2</sup> test (for calculation see Appendix II) shows that this is significant at the 95% level. This result constitutes a small piece of evidence that the "Service" sector of the U.K. economy performed better than others in the late 1980's.

The distribution of the low, medium and high performance companies analysed by status is shown in Table 7.6.

		S a l e s   G r o w t h				
		Low	Medium	High	Total	
					(No.)	%
						%
Independent	No.	11	11	15	37	45
	%	30	30	40	100	
Subsidiary	No.	16	14	15	45	55
	%	36	31	33	100	
		--	--	--	--	---
Totals	No.	27	25	30	82	100
	%	33	30	37	100	

Table 7.6. The distribution of low, medium and high performance companies analysed by status

The sample contained roughly equal numbers of independents and subsidiaries. The % distribution of low, medium and high performance groups within the 'Independents' and 'Subsidiaries' was broadly even. The characteristics of

the "Independent" and "Subsidiary" groups were examined during the spreadsheet analysis, but no significant differences were found, and in consequence the analyses which follow do not use the "Independent" and "Subsidiary" categories.

#### 7.4 THE RELATIVE CONTRIBUTION WHICH INTANGIBLE RESOURCES MAKE TO THE SUCCESS OF THE BUSINESS

The data in this section resulted from the question:

" What contribution did (in 1987), and does (in 1990), the '*reputation of your company*' make to the overall success of the business ?" was also asked with respect to the following 12 resources: *Reputation of Products; Know-how of Employees; Know-how of Suppliers; Know-how of Distributors; Networks; Databases; Public Knowledge; Trade Secrets; Contracts; Intellectual Property; Specialist Physical Resources; Organisational Culture.* Weighting scale: "Insignificant 1" to "Crucial 10"

##### 7.4.1 The Responses for 1987 Compared with 1990

The importance of the contribution which each intangible resource is reported as making to the overall success of the business in 1987 and in 1990 is shown in Table 7.7.

	Ranking (1 Most Important) (13 Least Important)		Weighting (Insignificant 1) (Crucial 10)		
	1987	1990	1987	1990	% Change '87-'90
Company Reputation	1	1	7.8	8.6	10
Product Reputation	2	2	7.5	8.4	12
Employee Know-How	3	3	7.4	8.1	9
Culture	4	4	6.4	7.9	23
Networks	4	5	6.4	7.1	11
Spect. Phys. Resources	6	6	5.5	6.1	11
Databases	10	7	4.3	6.0	40
Supplier Know-How	7	8	5.4	5.8	7
Distributor Know-How	8	9	4.7	5.3	13
Public Knowledge	9	10	4.6	5.2	13
Contracts	11	11	4.1	4.7	15
I.P. Rights	13	12	2.7	3.2	19
Trade Secrets	12	13	2.8	2.9	4

Table 7.7. The Relative Importance of the Contribution made by each Intangible Resource to the overall Success of the Business in 1987 & 1990; total sample; N = 95.

It is necessary to stress that the longitudinal dimension contained in this analysis resulted from estimates made by one person in each company in 1990. The perception of the situation in 1987 was on the basis of " ... as, to the best of your knowledge, you believe it to have been ..."

This analysis of the total sample shows "Company Reputation", "Product Reputation" and "Employee Know-how" as the most important contributors to company success; these, together with "Culture" and "Networks" were ranked above "Specialist Physical Resources".

The increases in the weightings assigned to all resources in 1990, compared to 1987, are broadly similar to

the increases observed in the pilot survey. The resources whose scores increased the most between 1987 and 1990 in the pilot survey were: "Specialist Physical Resources", "Intellectual Property Rights" and "Contracts". In contrast the resources whose scores increased the most between 1987 and 1990 in the national survey were "Databases" and "Culture" (N.B. The resource of "Culture" was not included in the pilot survey).

The change in weighting given to "Culture" and "Databases" between 1987 and 1990 in the national survey may be significant; + 23% and + 40% respectively on average. The increased weighting assigned to "Culture" is in tune with much current writing (some would say fashion) and the increased weight assigned to 'Databases' may be due to the growing recognition of the importance of information technology. Notwithstanding this "reasonable" conjecture the general increase in scorings between 1987 and 1990 cannot be explained.

The sections which follow analyse the weightings given for 1990 only.

#### 7.4.2 The Distribution of all Respondents' Scores for the More Important Intangible Resources

The distributions of the individual scores made by all respondents for: "Company Reputation", "Product Reputation", "Employee Know-how", "Culture" and "Specialist Physical Resources" are given in Charts 7.1, 7.2, 7.3, 7.4 and 7.5.

The "percentage analysis of scores" data included on each of Charts 7.1 - 7.5 is summarised in Table 7.8.



Weighting Score	Co.Repn.	Prod.Repn.	Emp.K-H	Cult.	Spec.Phys. Resources
	%	%	%	%	%
10	40	41	30	23	12
9	19	20	19	20	16
8	24	23	24	26	20
7 or less	17	16	27	31	52
Total	100	100	100	100	100

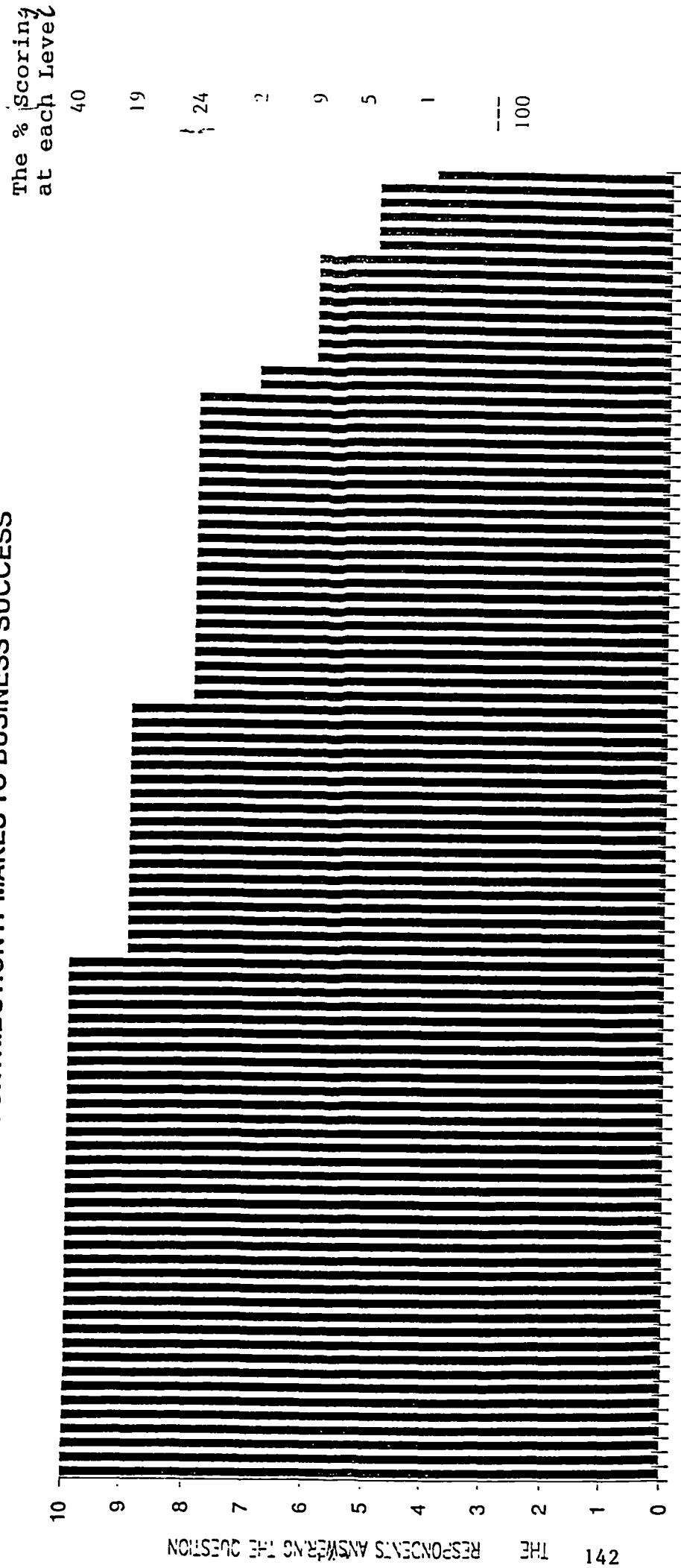
Table 7.8. Percentage of Respondents Scoring at each Weighting Level.

The % figures in Table 17 demonstrate that the resources with the highest average scores (Reputation and Know-how) also have the largest proportion of respondents assigning high weighting scores.

#### 7.4.3 The "Sign Test" Applied to the Total Sample Results

The usefulness of the "Sign Test" in analysing the statistical significance of responses which can be paired was identified in Chapter 6. The "Sign Test" charts are presented as Charts 7.6, 7.7, 7.8, 7.9, and 7.10.

# THE WEIGHTING SCORES ASSIGNED TO COMPANY REPUTATION WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS

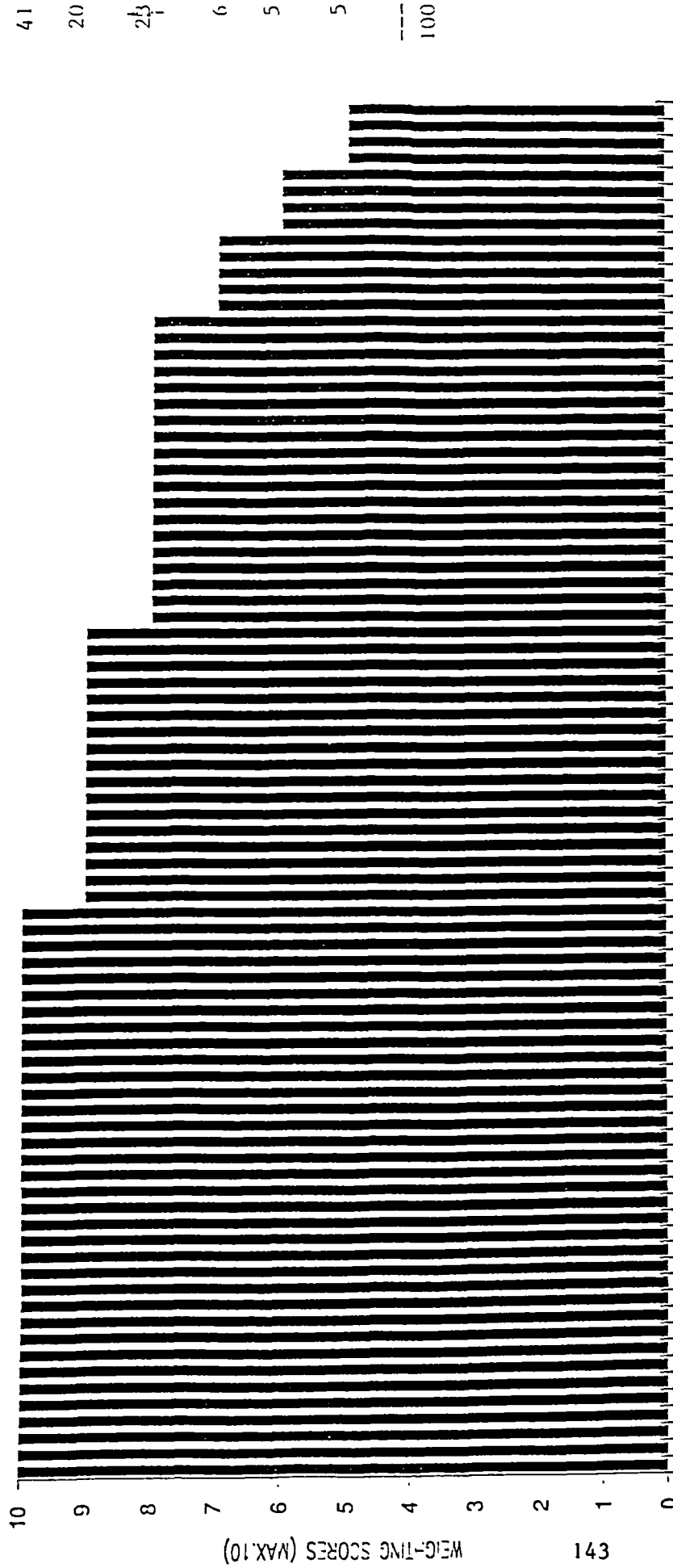


THE RESPONDENTS ANSWERING THE QUESTION

CHART 7.1

THE WEIGHTING SCORES ASSIGNED TO "PRODUCT REPUTATION" WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS

The % Scoring  
at each Level



THE RESPONDENTS ANSWERING THE QUESTION

CHART 7.2

THE WEIGHTING ASSIGNED TO "EMPLOYEE KNOW-HOW " WITH RESPECT TO THE  
CONTRIBUTION IT MAKES TO BUSINESS SUCCESS

The % Scoring  
at each Level

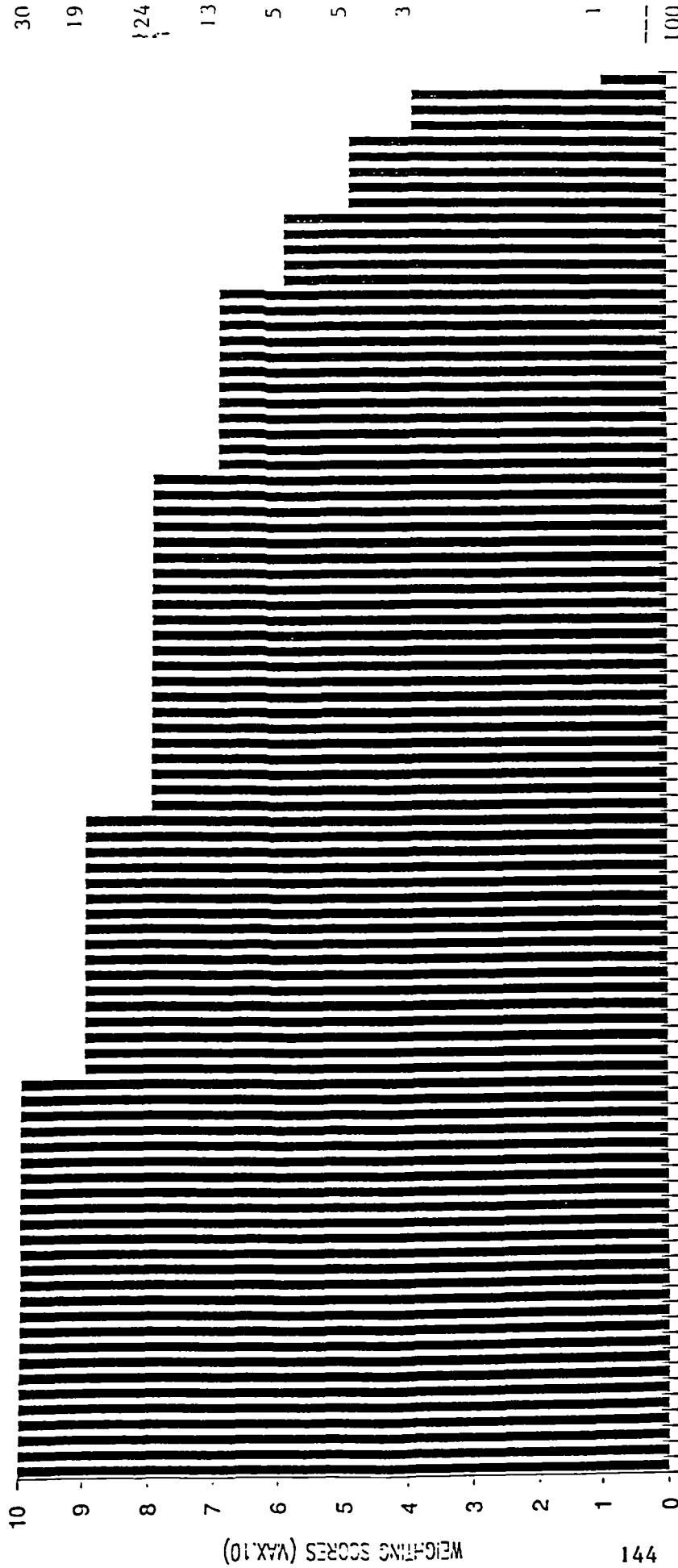
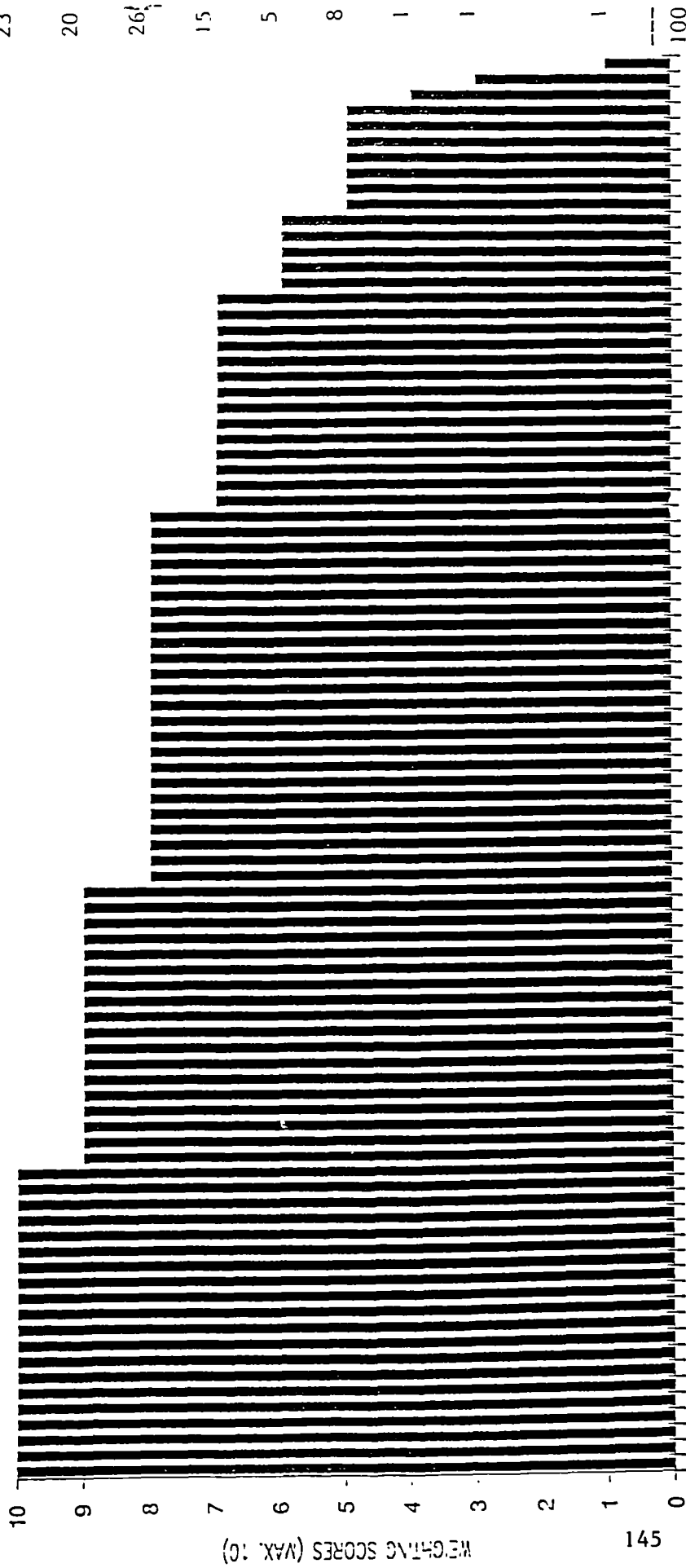


CHART 7.3

THE RESPONDENTS ANSWERING THE QUESTION

# THE WEIGHTING SCORES ASSIGNED TO "CULTURE" WITH RESPECT TO THE CONTRIBUTION IT MAKES TO BUSINESS SUCCESS

The % Scoring  
at each Level  
23  
20  
26  
15  
5  
8  
1  
1  
1  
100

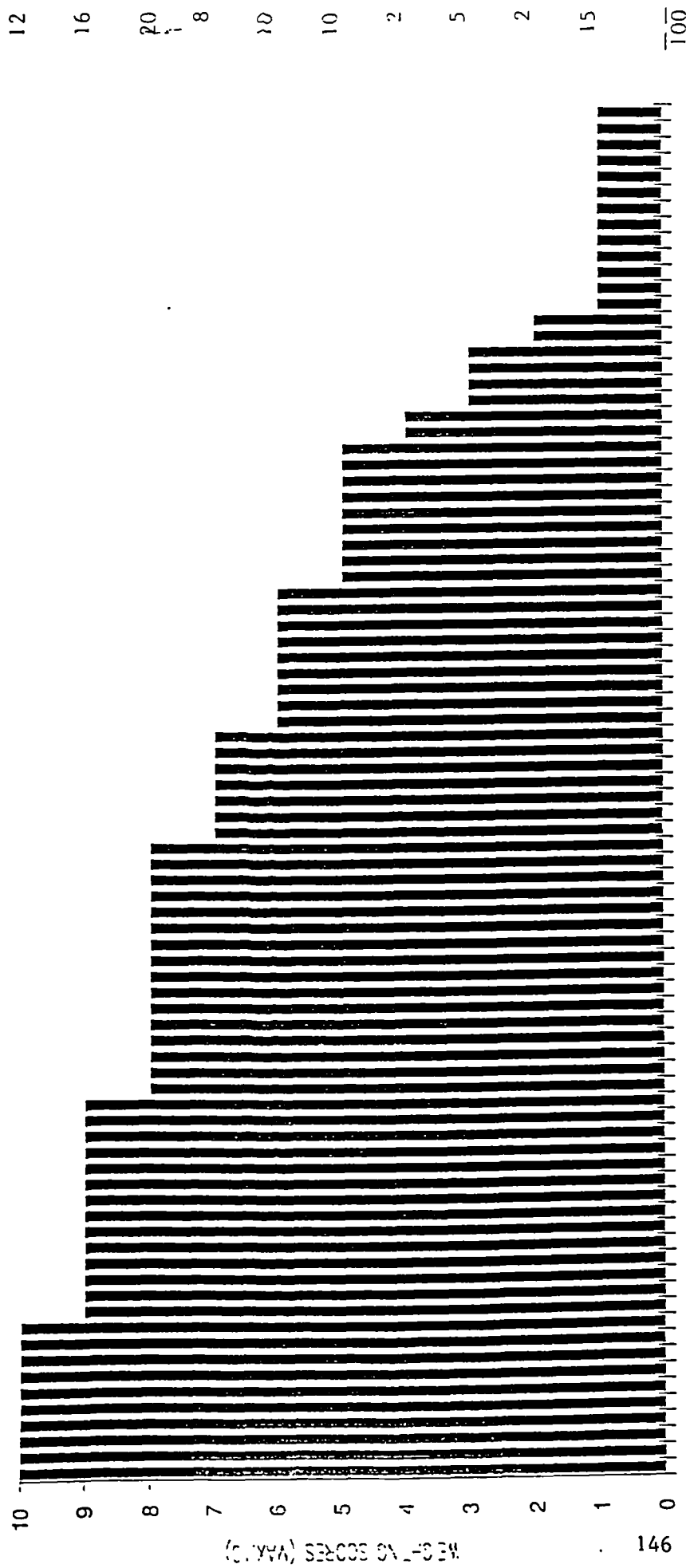


THE RESPONDENTS WHO ANSWERED THE QUESTION

CHART 7.4

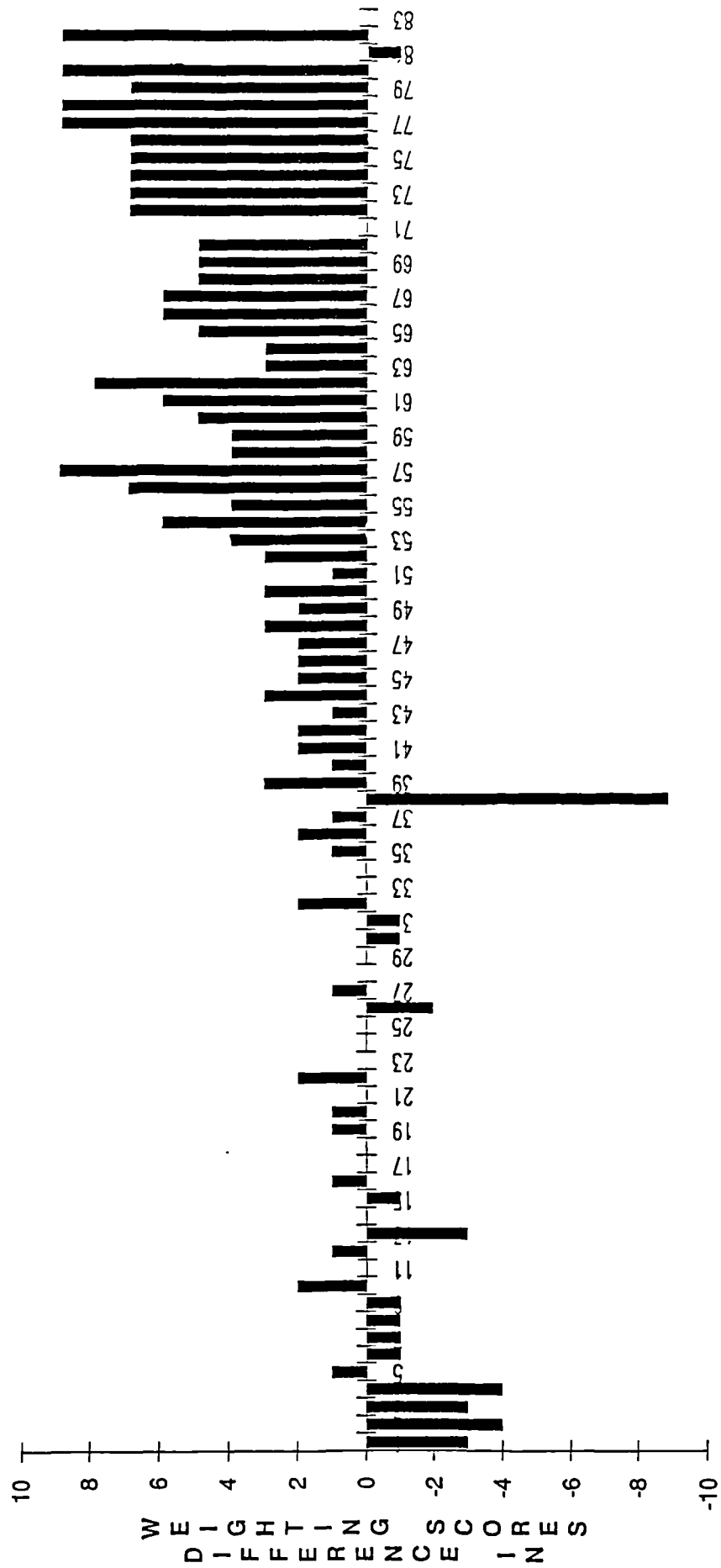
THE WEIGHTING SCORES ASSIGNED TO SPECIALIST PHYSICAL RESOURCES WITH  
RESPECT TO THE CONTRIBUTION THEY MAKE TO BUSINESS SUCCESS

The % Scoring  
at each Level



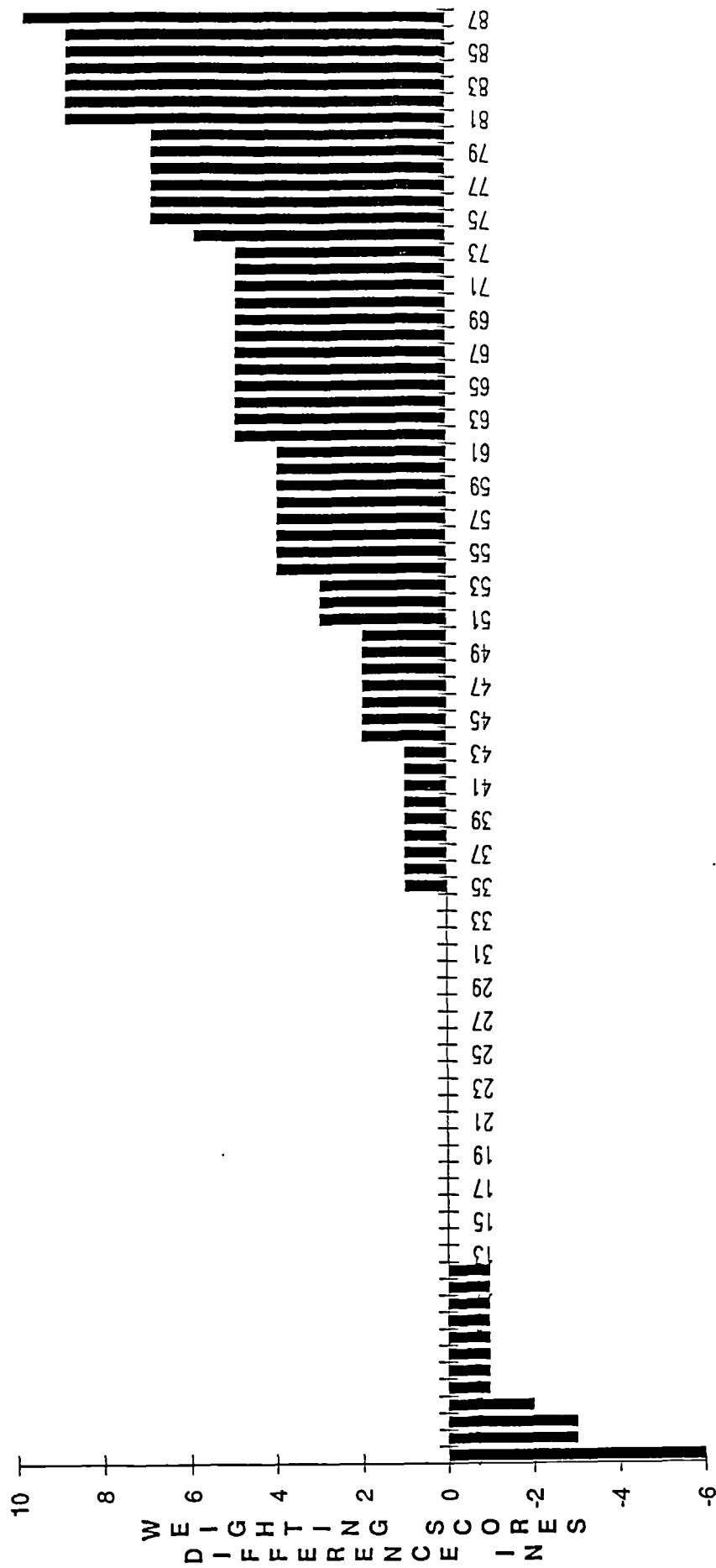
THE RESPONDENTS ANSWERING THE QUESTION

SIGN TEST : DIFFERENCE IN PAIRED SCORES; PRODUCT REPUTATION - SPEC PHYSICAL RESOURCES



82 PAIRED COMPARISONS FROM 82 RESPONDENTS

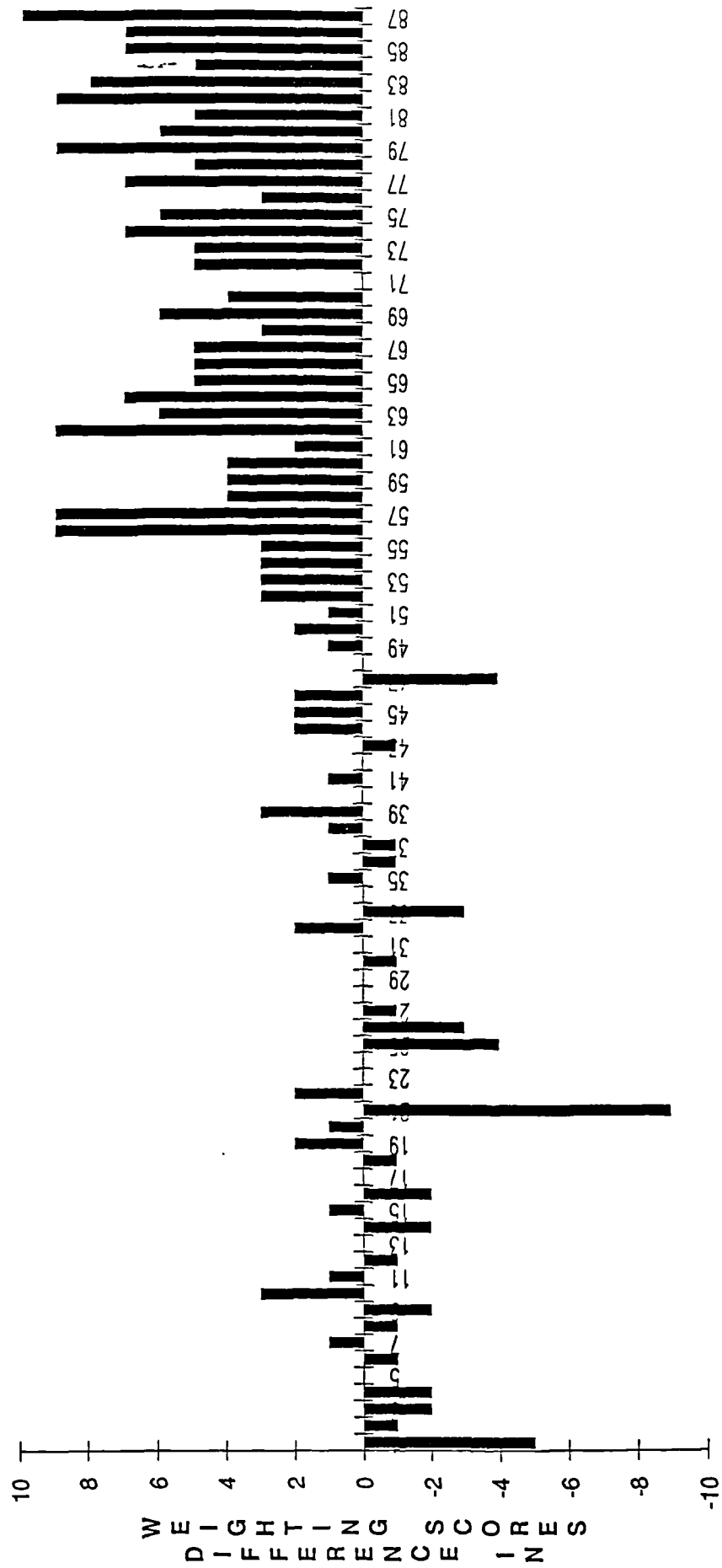
SIGN TEST :DIFFERENCE IN PAIRED SCORES : "COMPANY REPUTATION - SPEC. PHYSICAL RESOURCES"



87 PAIRED COMPARISONS FROM 87 RESPONDENTS

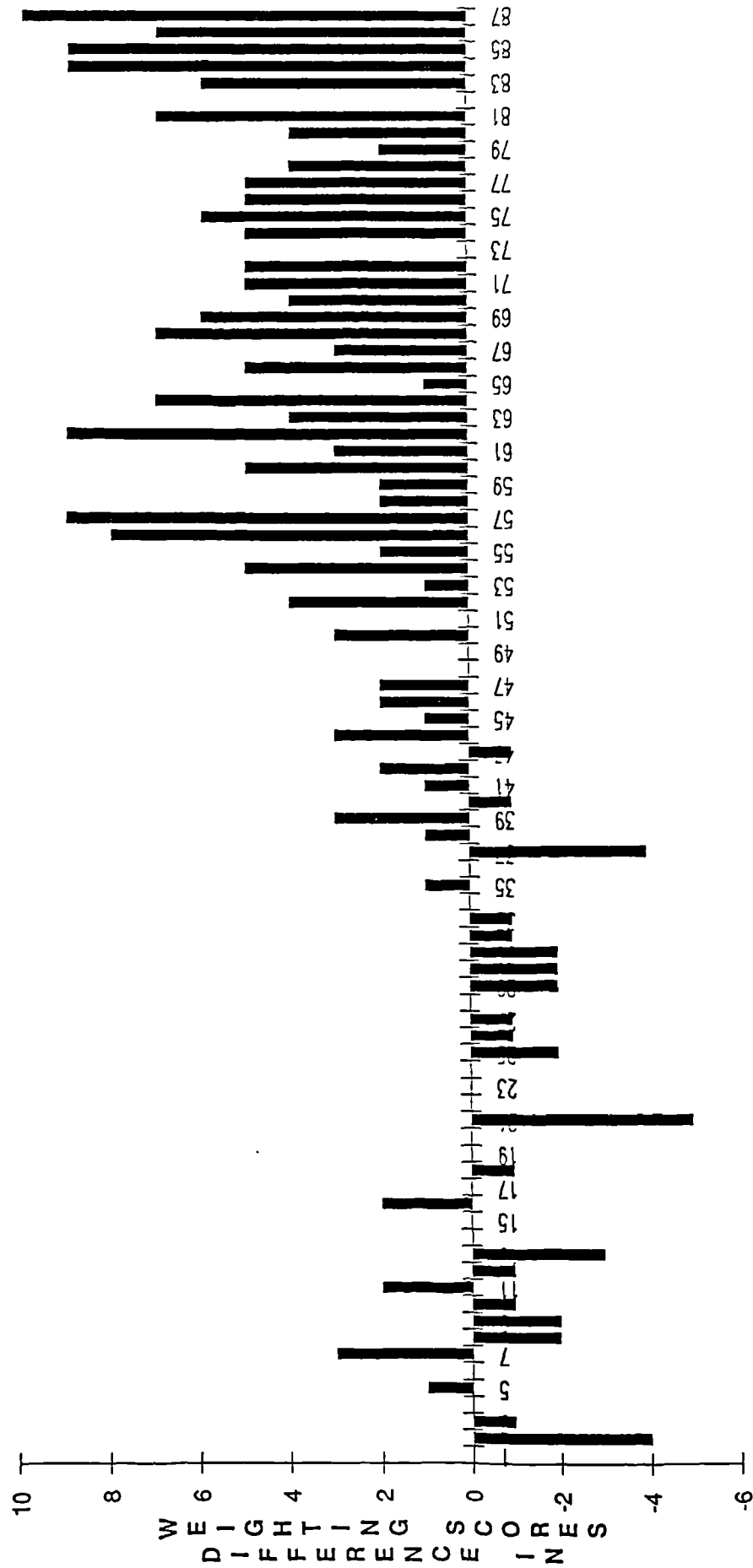


SIGN TEST : DIFFERENCE IN PAIRED SCORES : " EMPLOYEE KNOW-HOW - SPEC. PHYSICAL RESOURCES"



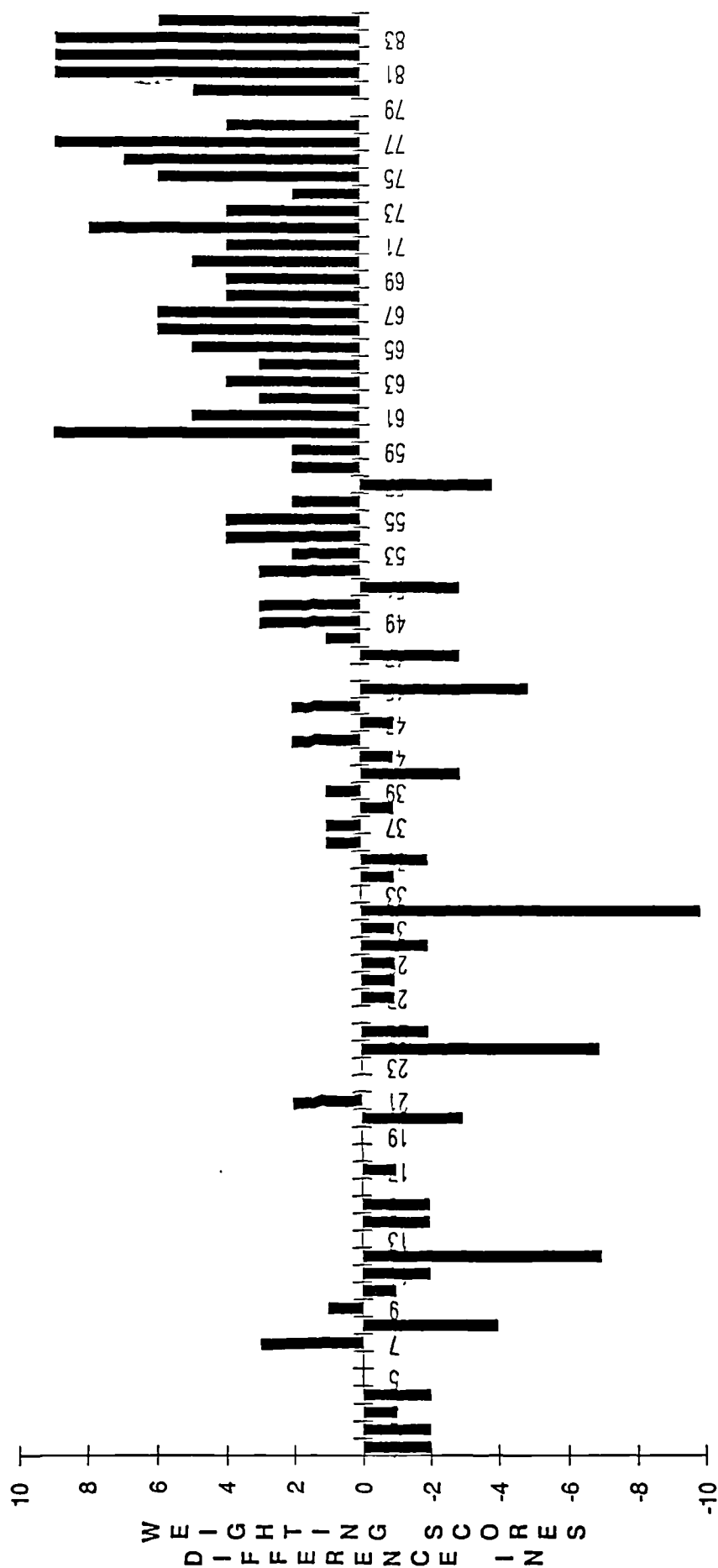
87 PAIRED COMPARISONS FROM 87 RESPONDENTS

SIGN TEST : DIFFERENCE IN PAIRED SCORES : "CULTURE - SPEC. PHYSICAL RESOURCES"



87 PAIRED COMPARISONS FROM 87 RESPONDENTS

SIGN TEST : DIFFERENCE IN PAIRED SCORES : "NETWORKS - SPEC. PHYSICAL  
RESOURCES"



The "Sign Test" statistical calculations are given in Appendix II. The calculations produce the following results:

At a 95% significance level the resources of "Company Reputation", "Product Reputation", "Employee Know-how" and "Culture" are identified as making a more important contribution to business success than "Specialist Physical Resources".

At a 95% confidence level the resource of "Networks", and by inference the other resources surveyed, cannot be identified as making a more important contribution to business success than "Specialist Physical Resources"

#### 7.4.4 Contribution to Business Success; Sectoral Analysis

The average weightings given to each intangible resource by the respondents in the individual sectors are shown in Table 7.9.

	Mfg. Cons. Prods	Mfg. Indl. Prods	Retg.	O.Trd.	Trpt.	Servs.	Divd.	Total
N =	10	21	10	4	16	21	13	95
	Av. Weightings; Insignificant 1, Crucial 10							
Co. Repn.	8.9	7.9	9.3	9.0	8.1	9.2	8.2	8.6
Prod. Repn.	8.8	8.5	9.1	9.3	8.4	8.1	7.9	8.4
Emp. K-H	6.7	8.0	8.5	7.0	8.3	8.4	8.5	8.1
Culture	6.7	7.9	8.4	7.3	7.8	8.7	7.5	7.9
Networks	6.1	6.3	6.7	7.5	7.9	7.8	7.6	7.1
Phys. Res.	6.7	6.6	7.6	4.3	6.4	5.2	5.5	6.1
Databases	5.0	4.1	5.3	6.0	7.9	7.7	5.6	6.0
Supp. K-H	5.4	5.4	7.3	4.0	6.3	5.9	5.9	5.8
Distr. K-H	5.6	4.2	5.3	5.3	5.6	5.8	5.1	5.3
Pub. Knowl.	3.7	4.3	5.8	6.3	4.9	6.7	5.2	5.2
Contracts	4.2	3.2	6.2	3.8	6.1	5.3	4.1	4.7
Int. Prop.	3.5	3.7	3.9	1.0	2.8	2.4	3.5	3.2
Trade Scrts.	2.0	3.1	2.9	3.0	2.6	3.9	2.2	2.9

Table 7.9. The Relative Importance of the Contribution made by each Intangible Resource to the Success of the Business; Analysed by Sector; 1990 only.

The ranking of each score within each sector is given in Table 7.10; and the significant high and low scores within each row of intangible resources is shown in Table 7.11.

	Mfg. Coñs. Prods.	Retg.	Servs., Divd.	Trpt.	Mfg. Ind. Prods	Total
	S c o r e			R a n k i n g s		
Co. Reprn.	1	1	1	2	3	1
Prod. Reprn.	2	2	4	3	1	2
Emp. K-H	3	3	3	1	2	3
Culture	3	4	2	5	6	4
Networks	6	7	5	4	4	5
Phys. Res.	5	5	11	8	7	6
Databases	9	10	6	7	4	7
Supp. K-H	8	6	8	6	8	8
Distr. K-H	7	10	9	10	10	9
Pub. Knowl.	10	9	7	9	11	10
Contracts	11	8	10	11	9	10
Int. Prop.	12	12	13	12	12	12
Trade Scrts.	13	13	12	13	13	13

Table 7.10. The Relative Importance of the Contribution made by each Intangible Resource to the Success of the Business; Scores ranked within each sector; 1990 only.

N.B. The detail of the "Other Trading"; sector is omitted due to the low sample size.

In 5 of the 6 sectors shown the first three rankings are given to "Company Reputation" "Product Reputation" and "Employee Know-how".

The "Services" sector ranks "Culture" at number 2 position, and "Product Reputation" at only 4th position. This seems to be reasonable as in the "Services" sector it is often difficult to distinguish the delivery system from the product. When the delivery system contributes to a competitive advantage it will be the culture of the staff which produces a high perception of customer service. "Company Reputation" will often be more important than "Product Reputation" because the product may not be known by a name other than the company name. It is also not

surprising that "Specialist Physical Resources" is ranked in 11th place by the "Services" sector as often the physical resources are not important to the service rendered. The ranking position given to "Specialist Physical Resources" varies significantly from sector to sector, but it is never ranked higher than 5th position in the sector averages.

The "Diversified" sector ranks "Employee Know-how" above "Reputation". This is to be expected as many conglomerates (e.g. Hanson plc., BTR plc., Lonrho plc.) *do not promote a corporate image to either their customers, or to the public at large.*

The "Retailing" sector does not rank "Networks" highly (7th position); this is to be expected as the management of a retailing enterprise rarely has significant personal relations with the retail customers.

	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	Trpt.	Servs.	Divd.
Co. Repn.		L	H			
Prod. Repn.			H			L
Emp. K-H	L		H			H
Culture	L				H	
Networks	L			H		
Phys. Res.			H		L	
Databases		L		H		
Supp. K-H	L	L	H			
Distr. K-H		L			H	
Pub. Knowl.	L				H	
Contracts		L		H		
Int. Prop.			H		L	
Trade Scrts.	L				H	
Number of 'L's	6	5			2	1
Number of 'H's			7	2	4	1

Table 7.11. The Relative Importance of the Contribution made by each Intangible Resource to the Success of the Business; Analysed by Sector; 1990 only; the highest (H) and lowest (L) scores within each Category of Intangible Resource.

The "Retailing" and "Services" sectors have the highest incidence of maximum scores with respect to the contribution made by intangible resources to business success. The two "Manufacturing" sectors, in contrast, place the lowest weighting on the contribution of intangible resources to business success. This may reflect a genuine difference in perspective on the parts of executives working in the different sectors, or it may reflect different perceptions of the scoring scales.



#### 7.4.5 Analysis by Sales Performance Group

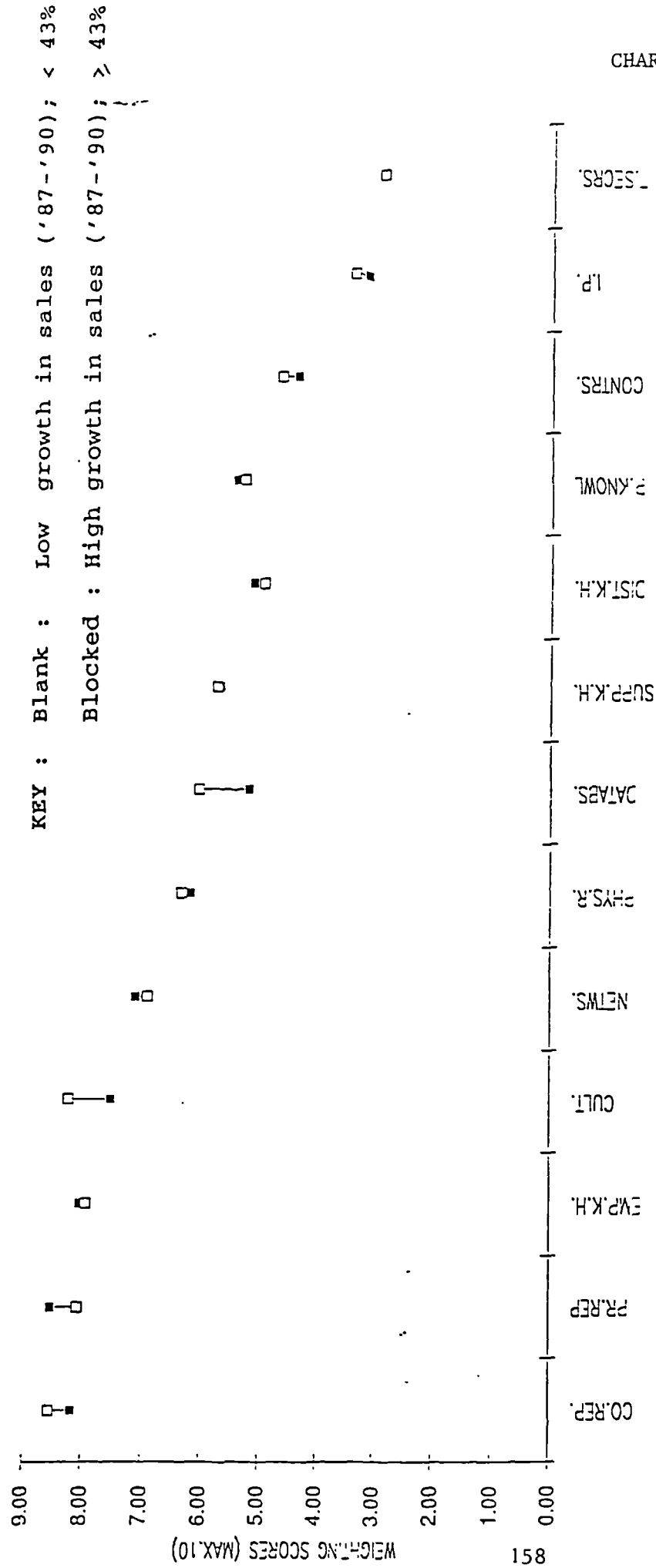
	Performance Groups			Total
	Low	Medium	High	
N =	27	25	30	82
	Av. W'tings; Insig.1, Crucial 10.			
Co. Reputation	8.5	8.3	8.9	8.6
Prod. Reputation	8.6	8.9	8.1	8.5
Empl. Know-how	8.0	8.5	8.1	8.2
Culture	7.6	7.9	8.7	8.1
Networks	7.3	6.9	7.5	7.2
Physical Resources	6.6	6.5	6.4	6.5
Databases	5.2	5.3	6.8	5.8
Supplier Know-how	5.9	6.0	5.8	5.9
Distr. Know-how	4.8	5.8	5.3	5.3
Pub. Knowledge	5.5	5.5	5.7	5.6
Contracts	4.7	4.0	5.4	4.7
Intellectual Property	3.2	3.6	3.5	3.4
Trade Secrets	3.3	2.3	3.4	3.0

Table 7.12. The Relative Importance of the Contribution made by each Intangible Resource to the Success of the Business; Analysed by Performance Group; 1990 only.

There appears to be no significant difference between the weightings assigned to the intangible resources by the different sales performance groups.

An alternative analysis was carried out using the Classification B (one high and one low sales growth groups each of equal size). The average weighting scores for all resources were plotted for both these groups. This plot is shown in Chart 7.11. This illustrates that no correlation exists between scores assigned to the contribution which the intangible resources make to business success, and growth in sales.

THE AVERAGE WEIGHTING SCORES ASSIGNED TO ALL RESOURCES (WITH RESPECT TO  
THE CONTRIBUTION THEY MAKE TO BUSINESS SUCCESS) FOR THE HIGH AND THE LOW  
SALES GROWTH GROUPS

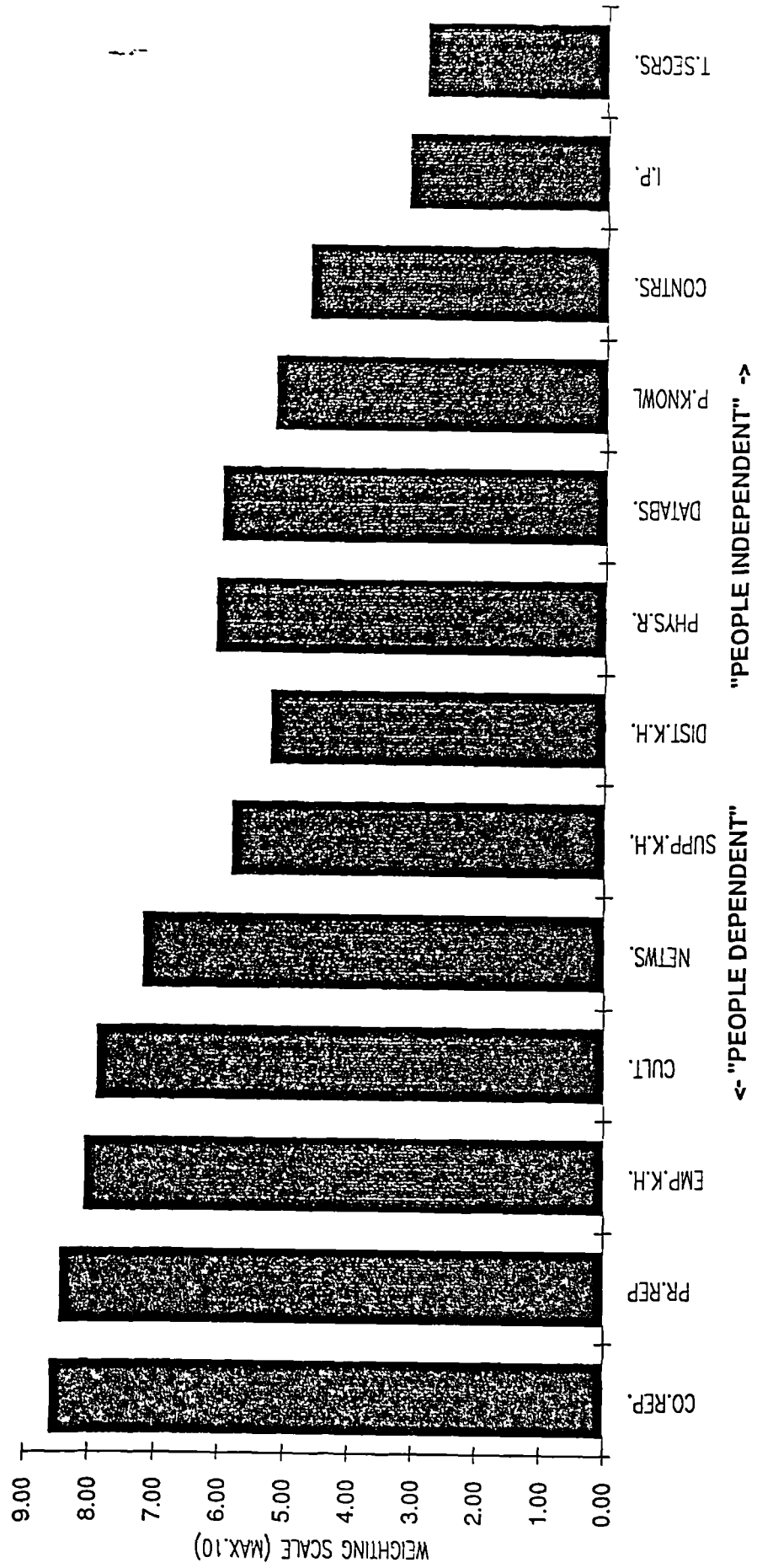


ALL 13 RESOURCES SURVEYED

#### 7.4.6 People Dependent and People Independent Resources

The resources were sorted into the "People Dependent" and "People Independent" categories, and the overall average scores for each resource within the two categories are shown in Chart 7.12. This chart clearly shows that, in aggregate the "People Dependent" resources are perceived as making a more important contribution to business success than the "People Independent" resources.

THE AVERAGE WEIGHTINGS GIVEN TO "PEOPLE DEPENDENT" AND "PEOPLE INDEPENDENT" RESOURCES WITH RESPECT TO THE CONTRIBUTION THEY MAKE TO BUSINESS SUCCESS



## 7.5 THE MOST IMPORTANT AREAS OF EMPLOYEE KNOW-HOW

This section presents the results of the analyses of the responses to the question:

"Which is the single most important area of employee know-how: operations, sales & marketing, finance, technology, other ?"

This data, which related to 1990, was analysed for the total sample, and by sectoral groups. These analyses are presented in Tables 7.13 and 7.14.

### 7.5.1 Sectoral Analysis

	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	O.Trd.	Trpt.	Servs.	Divd.	Total
	Number of respondents							
Operations	2	10	1	2	8	8	6	37
Sales & Mktg.	4	3	3	1	3	1	3	18
Technology	1	6	2	0	0	5	0	14
Finance	0	0	1	1	0	1	1	4
Other	0	0	0	0	1	2	0	3
	---	---	---	---	---	---	---	---
Totals	7	19	7	4	12	17	10	76*

Table 7.13. The number of respondents quoting the function as the single most important area of employee know-how; analysed by sector.

\* A number of respondents quoted more than one area of employee know-how. These responses were excluded so that a Chi <sup>2</sup> significance test could be carried out. The Chi <sup>2</sup> test can only be carried out if individual numbers exceed 5. The data has therefore been represented as shown in Table 7.14:

	Ops.	S. & Mktg.	Technology	Fin./Other
Total Quoting	37	18	14	7

Table 7.14 Re-presentation of the data contained in  
Table 7.13

The Chi <sup>2</sup> significance test is calculated for these figures in Appendix II. The result of this calculation is that the differences in the figures are meaningful at a 95% confidence level; "Operations" is ranked as the single most important area of employee know-how by a significant number of C.E.O.s in the total sample. However this result must be qualified due to the different perceptions of the C.E.O.'s in the different sectors. If there had been a preponderance of C.E.O.'s in the "Retailing" sector then the result would probably have been different. On the other hand it seems intuitively reasonable to believe that this result is representative of the total U.K. population of sectors excluding "Retailing" and "Manufacturing Consumer Products".

It is possible that operations is identified as the single most important area of employee know-how by a majority of respondents because the know-how in this functional area has a high tacit knowledge content; i.e. the know-how has to be acquired by experience. In contrast the know-how in the finance area has a high external knowledge content which means that the skills are formalised and transferable.

Whilst a statistical significance cannot be established for the figures for the individual sectors, the importance attached to "Sales and Marketing" by the "Manufacturing Consumer Products", and "Retailing" is to be expected. In both of these sectors the sentiment is inclined to meeting consumer needs effectively rather than efficiently: man-

agement emphasis is often more on "What you make" than on "How you make it"; or on "What you sell" than on how "How you sell it".

The low number of C.E.O.'s citing finance as the most important area of employee know how is surprising. This may be due to the fact that financial expertise is seen as a "hygiene" factor; i.e. it is a necessary function, but it is not critical to success.

#### 7.6 THE CONTRIBUTION WHICH EACH CATEGORY OF INTELLECTUAL PROPERTY MAKES TO THE SUCCESS OF THE BUSINESS

This section contains the analysis of the responses to the question:

"What contribution to company success do the following categories of intellectual property make: Patents, Registered Designs, Copyright, Trademarks, Unregistered Brand names?"

Weighting Scale: Insignificant "1", Crucial "10".

The responses to this question were analysed by sector, and by 'Licensor/Licensee'.

##### 7.6.1 Sectoral Analysis

	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	O.Trd.	Trpt.	Servs.	Divd.	Total
N =	10	21	10	4	16	21	13	95
	(Av. Weightings; Insignificant 1, Crucial 10)							
Unregd. B/n.	3.2	2.4	2.5	2.1	4.5	2.8	2.4	2.9
Regd. T/mks.	3.3	2.4	2.5	2.1	4.5	2.8	2.4	2.8
Patents	1.5	2.7	1.7	1.5	0.7	1.0	2.3	1.7
Regd. Designs	0.8	1.7	2.4	2.0	1.3	0.7	2.8	1.5
C/right	1.3	1.0	1.7	1.5	1.0	1.3	2.9	1.5

Table 7.15. The contribution which each category of intellectual property makes to the success of the business; analysed by sector.

Both the absolute scores, and the variations between sectors, are low. This suggests that there is a degree of unanimity with respect to the relative unimportance of "Intellectual Property Rights" with respect to the contribution they make to business success. The transport sector companies assigned significantly higher scores to the contribution of "Unregistered Brand Names" and "Registered Trademarks", but no reason could be identified for this.

#### 7.6.2 Analysis by Licensor/Licensee Categories

Thirteen of the ninety five respondents classified themselves as either "Licensee", or "Licensor" or both. These respondents assessed the importance of the contribution of the different categories of intellectual property as shown in Table 7.16.

(Importance Weighting: Insignificant 1; Crucial 10.)						
	(1) Licensor	(2) Licensee	(3) Both Licensor & Licensee	(4) Sub-set Total	(5) Total	(4) --- (5)
N =	3	3	7	13	95	%
Regd. T.M.	5.3	2.7	6.3	4.3	2.8	54
Patents	4.0	2.0	3.3	2.8	1.7	65
Copyright	2.7	2.0	3.0	2.4	1.5	60
Unregd.B.N.	2.5	1.3	2.5	2.0	2.9	-21
Regd.Design	0.7	2.0	0.7	1.6	1.5	7

Table 7.16. The Contribution of Intellectual Property to Business Success

The comparison of the sub-set totals (Col. 4) with the total sample totals (Col. 5) is what one would expect. The "Licensing Group" weight all categories much higher than does the total sample except "Unregistered Brand Names" and "Registered Designs". It is to be expected that any brand name which can be registered will be registered by the "Licensing Group" companies, and if it cannot be it



will not be held as important. Whilst Registered Designs are rated slightly higher by the "Licensing Group" this category of intellectual property is universally held to be unimportant possibly because of the difficulty of defending it.

#### 7.7 THE REPLACEMENT PERIODS ASSOCIATED WITH INTANGIBLE RESOURCES

This section contains the analysis of the responses to the question:

" Given a reasonably high priority how many years would it take to recreate the current 'reputation of your company' if you had to start from scratch?" was also asked with respect to the following factors: *Reputation of Products, Know-how of Employees, Know-how of Distributors, Know-how of Suppliers, Networks, Databases.*

##### 7.7.1 Sectoral Analysis

	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	O.Trd.	Trpt.	Servs.	Divd.	Total
N =	10	21	10	4	16	21	13	95
	Y e a r s							
Co. Repn.	6.4	9.5	8.4	4.8	16.1	8.0	18.2	10.8
Prod. Repn.	7.3	7.2	5.6	3.0	3.8	7.8	4.7	6.0
Emp. K-H	3.4	4.8	3.6	5.0	3.6	4.9	6.2	4.6
Netwrks.	3.5	3.8	3.3	2.8	2.2	4.0	3.2	3.4
Supp K-H	3.1	2.6	3.0	1.8	1.4	2.0	7.6	3.1
Databases	1.2	2.4	1.8	1.7	1.5	2.4	3.0	2.1
Distr. K-H	1.2	2.6	1.4	1.0	1.3	1.3	2.5	1.7

Table 7.17. The replacement periods (yrs.) for reputation, know-how, networks and databases; analysed by sector.

As well as being assessed as the three most most important intangible resources "Company Reputation", "Product Reputation" and "Employee Know-how" are assessed as being the resources which have the longest replacement periods. In view of this it can be argued that they contribute not

only to competitive advantage, but also to the sustainability of the advantage because of the long time it would take a competitor, starting from scratch, to equal the capability.

The individual estimates given in response to this question varied greatly. The ranges are shown in Table 7.18.

	Mfg. Cons. Prods.	Mfg. Indl. Prods	Retg.	O.Trd.	Trpt.	Servs.	Divd.
N=	10	21	10	4	16	21	13
Y e a r s							
	1	0	1	1	0	0	1
	to	to	to	to	to	to	to
	20	40	25	10	175	50	101

Table 7.18. Range of Estimates for Replacement Periods (all resources)

It is possible that some of the estimates, e.g. 101 years relate to the age of the company rather than to a considered response to the question. Clearly the ranges of the estimates given in response to this question are so great that little importance can be given to the averages; and in consequence no further analyses will be presented in this section.

The issue of replacement periods was included in the surveys but not in the case studies. The intention behind its initial inclusion was to determine to what extent intangibles, by virtue of long replacement periods, contributed to the sustainability of advantage. A long replacement period only contributes to sustainability if the resource is unique to the company. For example if one company has employee know-how in, say surface chemistry, with a replacement period of 15 years, and its main competitor has employee know-how in surface chemistry with a

replacement period of 12 years, it is the difference of 3 years which is significant to the defendability of the first company's advantage. Therefore when companies share the same resource the significant time period with respect to sustainability (or defendability to attack) is the lead over the main competitor.

## 7.8 THE LEAD OR LAG OVER COMPETITION

The question "How many years are you currently ahead/behind your main competitor ?" was asked with respect to the following factors: *Know-how of Employees, Know-how of Suppliers, Know-how of Distributors, Networks, Databases* .

### 7.8.1 Sectoral Analysis

	A v e r a g e   L e a d   /   L a g   Y e a r s							
	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	O.Trd.	Trpt.	Servs.	Divd.	Total
N =	10	21	10	4	16	21	13	95
Emp. K-H	0.3	1.0	1.2	2.3	0.9	0.7	0.7	0.9
Netwrks.	1.4	0.3	1.7	1.8	0.7	0.4	0.4	0.7
Supp. K-H	0	0.3	1.8	1.3	0.6	0.3	0.4	0.6
Databases	0.2	-0.2	0.4	1.0	0.9	0.7	0.0	0.4
Distr. K-H	0.9	0.1	0.6	0.5	0.9	0.1	0.8	0.3

Table 7.19. Lead/Lag (yrs.) over competition; analysed by sector.

If the sample was random, and the respondents were able to ascertain the truth, then one would have expected an average lead/lag over competition of zero; in fact the overall average is + 0.55 years. We are of course dealing with perceptions, and most C.E.O.'s will be inclined to

the belief that they are ahead of the competition.

The range in estimates given for "Lead/lag over competition" is shown in Table 7.20.

Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retg.	O.Trd.	Trpt.	Servs.	Divd.
Y e a r s						
-1 to 5	0 to 3	-2 to 5	1 to 3	-1 to 3	-1 to 2	-1 to 2

Table 7.20. The Range in Estimates given for lead/lag over Competition

Unlike the estimates for "Replacement periods" the estimates for "Lead/lag ..." are very flat; -2 to +5 yrs., as opposed to 0 to 175 yrs. The possibility of correlations between sales performance and the lead/lag of:

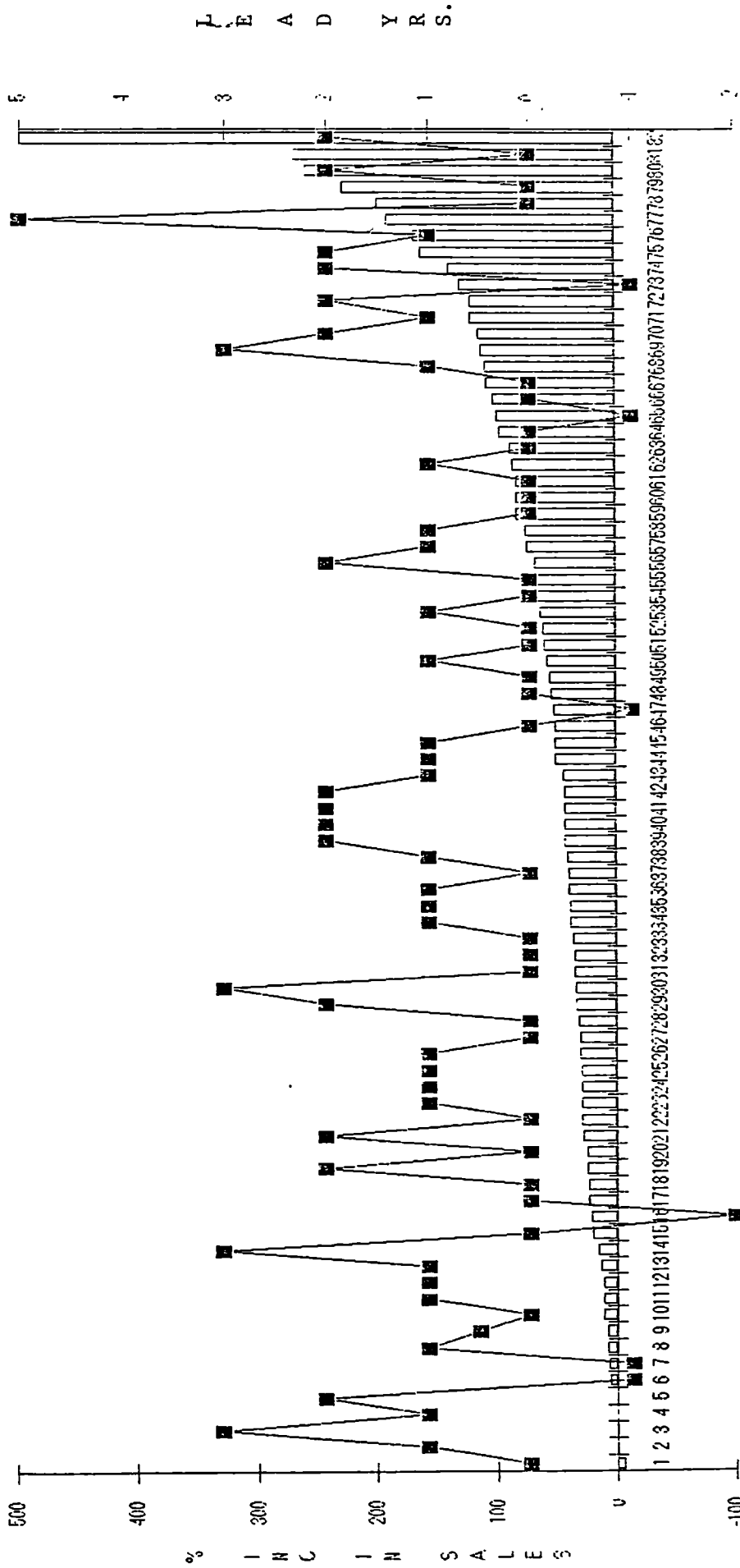
- (i) employee know-how only
- (ii) the sum of the know-how categories
- (iii) the sum of all categories

was investigated.

This analysis was carried out using the individual figures for each of the 82 companies, rather than the averages of the groups. Charts 7.13, 7.14, and 7.15 show that no correlation could be established between lead/lag over competition and sales performance.

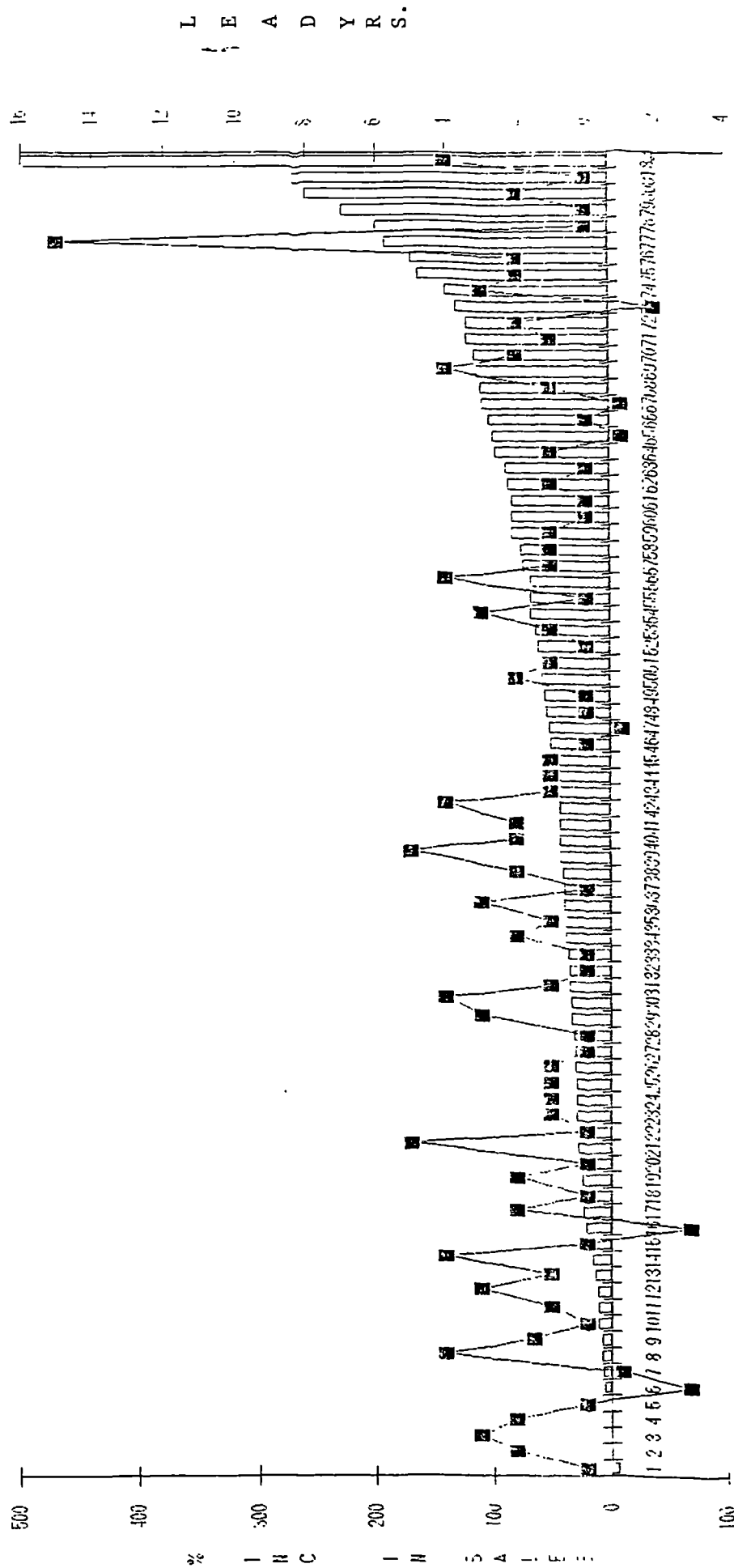
In view of the high proportion of "High Sales Growth" companies in "Services", and "Low Sales Growth" companies in "Diversified", these sectors were excluded from the data and a further analysis was carried out in order to see if a correlation could be established between sales growth, and the lead in employee know-how. Chart 7.16 shows that no such correlation could be established.

YEARS LEAD IN EMPLOYEE KNOWHOW and I.I.C. IN SALES ('87-'90)

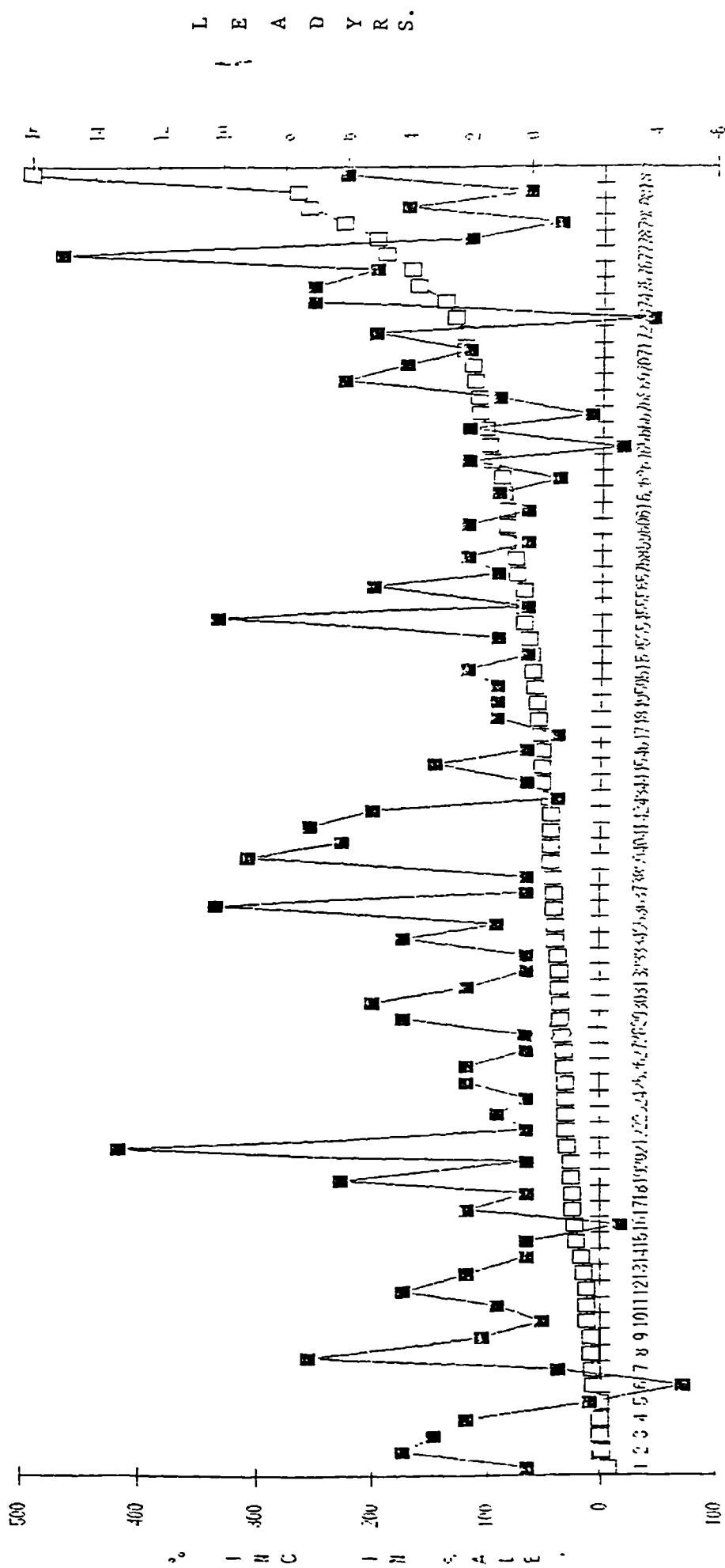


THE 32 COMPANIES RANKED (FROM L. to R.) BY INCREASING GROWTH IN SALES ('87-'90)

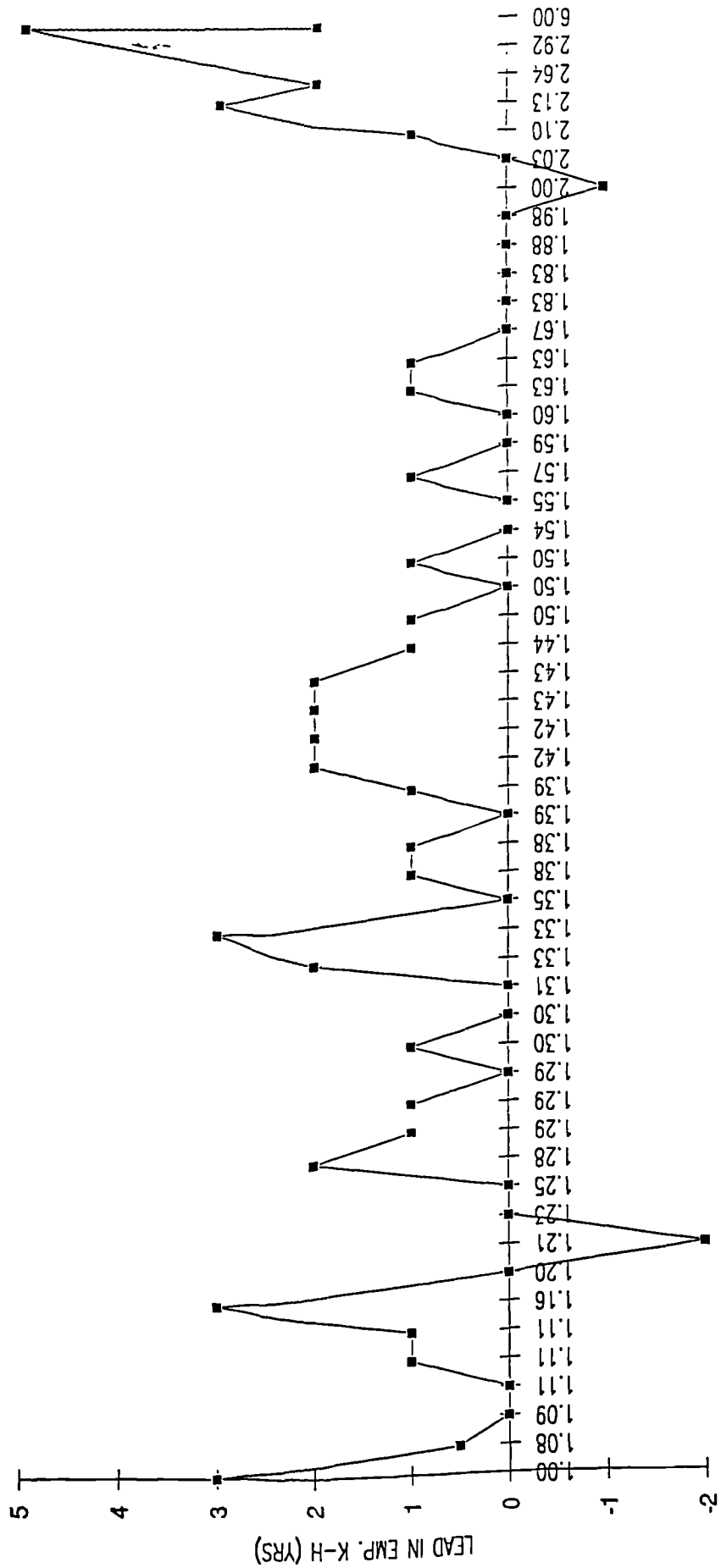
TOTAL LEAD IN INNOVATION (All Types) and IHC IN SALES (87-90)



IHC: 82 COMPANIES RANKED (FROM L. TO R.) BY INCREASING GROWTH IN SALES (87-90)



% INCREASE IN SALES AGAINST LEAD IN EMPLOYEE KNOW-HOW; EXCLUDING THE SERVICES AND DIVERSIFIED SECTORS





## 7.9 INTANGIBLE RESOURCES AND DISTINCTIVE COMPETENCE

The final question posed in the questionnaire was:

"The success of your operations may be measured in various ways, e.g. profitability, growth, financial strength etc.. The sustained achievement of one, or more, of these measures of success will be due to a superior capability or a *distinctive competence*. If it is possible to do so please indicate which of the following categories has been the single most important resource with respect to your distinctive competence: databases, contracts, public knowledge, company reputation, know-how, networks, intellectual property rights, product reputation, culture, specialist physical resources, total quality capability, not applicable." (Please mark one only).

The question went on to ask:

"If it is possible to think in terms of the 'quantity' and 'quality' of the one key resource identified above, can you indicate how it has changed in the last three years:

Significant Enhancement  
Enhancement  
No Change  
Decline  
Not Applicable

Some of the respondents answering this question did not limit themselves to "... the single most important resource ..."; i.e they quoted more than one. The analyses which follow are based on the data from the 65 respondents who identified one resource only. The number of respondents who identified a resource as the "single most important one", analysed by low and high sales growth groups (classification 'B'), is shown in Table 7.21.

	<u>Low Sales Group</u> (Sales Inc. <43%)	<u>High Sales Group</u> (Sales Inc. >43%)	<u>Total</u>
	N u m b e r       o f       R e s p o n d e n t s		
Co. Reprn.	12	12	24
Quality	6	9	15
Know-how	4	6	10
Prod. Reprn.	4	1	5
Culture	2	2	4
Databases	2	1	3
Contracts	2	0	2
Networks	0	1	1
Publ. Know.	0	0	0
Int. Propy.	1	0	1
Not Applic.	0	0	0
	--	--	--
Total	33	32	65

Table 7.21 The Number of Respondents who identified the different resources as the single most important one with respect to Distinctive Competence.

"Specialist Physical Resources" were not cited by any respondent.

60% of the respondents quoted either "Company Reputation" or "Quality" as the factor which was the single most important source of distinctive competence / superior capability.

This question is the only one to include the "Quality" factor. The second highest percentage of C.E.O.'s rated "Quality" as the single most important source of distinctive competence/superior capability.

The movement in the "quantity"/"quality" of these resources was identified and the results are shown in Table 7.22.

	Low Sales Group (Sales Inc.<43%)	High Sales Group (Sales Inc.>43%)	Total
Sig. Enhancement	6	9	15
Enhancement	16	21	37
No Change	7	2	9
Decline	4	0	4
	--	--	--
Total	33	32	65

Table 7.22. Change in "Quantity/Quality" of the  
Most Important Intangible Resource

There appears to be a slight weighting of "Significant Enhancement/Enhancement" towards the high sales growth group

In order to carry out a Chi <sup>2</sup> test (for which all numbers should be greater than 5) the data in Table 7.22 is represented in Table 7.23.

	Low Sales Group (Sales Inc.<43%)	High Sales Group (Sales Inc.>43%)	Total
Growth	22	30	52
No Change/ Decline	11	2	13
Total	33	32	65

Table 7.23. Re-presentation of data in Table 7.22

There is still one number less than 5, so as statistical tables are unreliable in this instance, all the Chi <sup>2</sup> values for all possible values in the "No Change/ Decline" row; i.e. 13 and 0, 12 and 1, 11 and 2, 10 and 3 etc. were calculated. The calculations for this exact test are shown in Appendix II, and the summary results are shown in Table 7.24.

	Low Sales Group	High Sales Group	Chi <sup>2</sup>
No Change/ Decline	13	0	13.93
No Change/ Decline	12	1	10.44
No Change/ Decline	11*	2*	7.45*
No Change/ Decline	10	3	4.99
No Change/ Decline	9	4	3.02
No Change/ Decline	8	5	1.55
No Change/ Decline	7	6	0.56
No Change/ Decline	6	7	0.06
No Change/ Decline	5	8	0.06
No Change/ Decline	4	9	0.58
No Change/ Decline	3	10	1.63
No Change/ Decline	2	11	3.24
No Change/ Decline	1	12	5.45
No Change/ Decline	0	13	8.31

\* The observed distribution

Table 7.24. All Possible Chi <sup>2</sup> values for the matrix shown in Table 7.23

The distribution of the Chi <sup>2</sup> values shown in Table 7.24 can be summarised as follows:

Greater than  
or equal to 7.45 (the observed distribution) 3/14 = 21 %

Less than 7.45 (the observed distribution) 10/14 = 71 %

There is therefore, approximately, a 70 % probability that the distribution of values shown in Table 7.23 did not occur by chance.

This result provides weak evidence for a correlation between "Sales growth" and the "Perception of growth in

the one key intangible resource". This may or may not represent a cause and effect situation. A growth in sales may cause an increase in intangible resources, or vice versa, or they may both be due to another cause; the most that one can say is that there is weak evidence of the existence of some linkage.

#### 7.10 CONCLUSION TO CHAPTER 7

In any sampling exercise, such as this survey, a key issue to be addressed is that regarding the significance of the information which can be extracted from the sample. A fundamental limitation of postal surveys is that the respondents constitute a self selected group; for example it may be that the only executives to respond to a certain questionnaire are those who are interested in the subject being surveyed. Because of this limitation it is necessary to examine the characteristics of the sample which can be verified, or which seem intuitively to be reasonable, and in the light of these findings to infer validity to the characteristics which are novel. The findings of this study fall into three categories:

- (i) Those which are statistically significant on the basis of sample size and distribution.
- (ii) Those for which statistical significance cannot be established, but which are what one would expect.
- (iii) Those for which statistical significance cannot be established, and which are novel. This category may indicate the opportunity for further research.

The conclusions which can be drawn are presented in the sections which follow; one section is devoted to each section of the questionnaire.

### 7.10.1 The Characteristics of the Respondent Sample

#### 7.10.1.1 Results Which Have Statistical Significance

The 82 respondent companies which supplied sales data were divided equally into high and low sales performance groups (with respect to the 1987-1990 period). 71% of the 21 service sector companies were in the high sales performance group. This result provides a small piece of additional evidence regarding the growth of the services sector in the U.K. economy in the late 1980's.

#### 7.10.1.2 Results Which Are What One Might Expect

55% of the 11 "Diversified" companies (respondents who identified more than one sector without indicating a dominant one) were in real decline in the period. This result is in tune with the stock market sentiment regarding the performance of diversified companies in the period in question.

### 7.10.2 The Contribution to Business Success

#### 7.10.2.1 Results Which Have Statistical Significance

"Company Reputation", "Product Reputation", "Employee Know-how" and "Culture" were all assessed as making a more important contribution to business success than "Specialist Physical Resources". The scores assigned to the "People Dependent" and the "People Independent" resources (Section 7.4.6, Chart 7.12) illustrate that the "People Dependent" resources are held to be the more important category. This suggests that the strategic management process should, if possible, apply analysis techniques to these people dependent resources to supplement the analyses techniques which use factors such as: market share, growth, etc. The testing of such a technique was one of the major objectives of the case study stage of this investigation.

The scoring (on a scale of Insignificant "1"; Crucial "10") assigned to the four most highly rated resources was consistently high:

	% of Respondents Scoring "8" or Over
Company Reputation	83
Product Reputation	84
Employee Know-how	73
Culture	69

No correlation could be established between the perception of the contribution which intangible resources made to business success, and growth in sales.

#### 7.10.2.2 Results Which Are What One Might Expect

The variations in the importance of contribution scores are summarised in Table 7.25 where any ranking which differs by two or more places from the overall ranking is identified.

	Mfg. Cons. Prods.	Retg.	Servs.	Divd.	Trpt.	Mfg. Ind. Prods	Total
		S c o r e			R a n k i n g s		
Co. Repr.					3	3	1
Prod. Repr.			4				2
Emp. K-H				1			3
Culture			2		6		4
Networks		7					5
Phys. Res.			11				6
Databases		10				10	7

Table 7.25. The Major Variations, between Sectors, in the Rankings of the Overall Importance Scores of the Contribution which each Intangible Resource makes to the Success of the Business; 1990 only.

### *Retailing*

It is probably the case that the "Retailing" sector does not rank networks highly because there is little managerial contact with customers. The lack of specific data regarding customers may be the reason why "Databases" are not rated higher. Whilst data regarding what is selling is the key to retailing it is probably the case that this is regarded as an ongoing aspect of operations, rather than as a fairly static database such as a direct mail company's customer list.

### *Services*

"Product Reputation" is rated 4th, as opposed to 2nd overall, probably because the service company's product is often synonymous with the company itself ("Company Reputation" was ranked 1st).

"Culture" is ranked 2nd, as opposed to 4th overall, probably because in "Services" the culture of the staff will impact on the quality of the delivery system, which is often an integral part of the product.

"Physical Resources" are ranked 11th, as opposed to 6th overall, probably because the human element of the service is usually more important than the physical element.

### *Diversified*

The "Diversified" sector placed both "Company Reputation" and "Product Reputation" after "Employee Know-how". This is probably the case because many diversified companies are not concerned with promoting a corporate image; nor, in the case of the head office staff answering the questionnaire, will they consider product reputation to be so important as the ability of staff to produce the results.



### *Transport*

It is surprising that "Product Reputation" was placed higher, at 1st place, than "Company Reputation" as transport, like services, usually promotes a company image rather than a product image. The low ranking of "Culture" is less surprising as transport is a fairly depersonalised business, with operators working in isolation; and, except in the case of personal transportation, with minimal customer contact.

### *Manufacturing Industrial Products*

Both "Product Reputation" and "Employee Know-how" were placed ahead of "Company Reputation". It would seem to be the case that most of these respondent companies were producing a proprietary product which had a reputation in its own right. The low ranking of "Databases" is also surprising as accurate databases in the form of bills of materials can be the key to efficient manufacturing.

### 7.10.2.3 Results Which Are Novel

#### *The Absolute Scores*

There are two surprising aspects to the absolute scores assigned by respondents.

The first is the general increase in the absolute scores assigned to the contributions in 1990 compared to 1987. Two of the largest increases ("Databases" and "Culture") are what one would expect; but it is not possible to identify a reason why the scores assigned to all resources should be higher in 1990 than in 1987. It may be that respondents have become more aware of the role of intangibles as a result of press comment etc., but this is conjecture.

The second surprising aspect of the absolute scores is the difference between the sectors. This is illustrated in Table 7.11, and is summarised in Table 7.26

	Mfg. Cons. Prods.	Mfg. Indl. Prods.	Retailing
Co. Repn.		L	H
Prod. Repn.			H
Emp. K-H	L		H
Culture	L		
Networks	L		
Phys. Res.			H
Databases		L	
Supp. K-H	L	L	H
Distr. K-H		L	
Pub. Knowl.	L		
Contracts	L		
Int. Prop.			H
Trade Scrts.	L		
Number of 'L's	6	5	
Number of 'H's			7

Table 7.26. The Relative Importance of the Contribution made by each Intangible Resource to the Success of the Business; Analysed by three Sectors; 1990 only; Significant 'Highs' and 'Lows' within each Category of Intangible Resource.

The two "Manufacturing" sectors assigned lower absolute scores to the importance of most intangibles than did other sectors (even in the case of "Specialist Physical Resources" the manufacturing sector assigned a lower absolute average score than did the retailing sector). By contrast the retailing sector assigned higher overall absolute scores to most intangibles than did the other sectors.

It has not been possible to identify reasons for either of these aspects to the results.

#### 7.10.3 The Most Important Area of Employee Know-how

##### 7.10.3.1 Results Which Have Statistical Significance

"Operations" is assessed as being the single most important area of employee know-how. This is statistically significant for the sample as a whole, but this is due to the composition of the sample. The "Manufacturing Consumer Products" and the "Retailing" sectors identified "Sales and Marketing" as the single most important area of employee know-how; unfortunately statistical significance cannot be established for sub-sectors as the numbers are too small. It can nevertheless be argued that there is evidence that, for the total population of all sectors other than "Manufacturing Consumer Products" and "Retailing", "Operations" is held to be the single most important area of employee know-how. Similarly there are grounds for believing that the "Manufacturing Consumer Products" and the "Retailing" sectors hold "Sales and Marketing" to be the single most important area of employee know-how.

##### 7.10.3.2 Results Which Are Novel

It is noteworthy that so few C.E.O.'s (18%) identified "Technology" as the single most important area of employee know-how. This echoes the poor representation that the management of technology has in the strategic management literature.

#### 7.10.4 The Contribution of Intellectual Property Rights

##### 7.10.4.1 Results Which Are What One Might Expect

Intellectual property rights were assigned a very low

rating with respect to the contribution which they make to business success (Ranked 12th out of the 13 resources investigated); although the "Licensor" or "Licensee" sub-group did assign higher scores than did other respondents. This was particularly true in the case of registered trade marks where this sub-group assigned an importance weighting 54% higher than did the rest of the sample.

#### 7.10.4.2 Results Which Are Novel

It is surprising that registered trade marks are not assessed as being more important by most respondents because they do attach high importance to "Company Reputation" and to "Product Reputation" both of which may be represented in a mark which could possibly be registered. Either the assumption that reputation can be represented in marks which can be registered is wrong, or there is a reluctance, or ignorance, regarding the use of intellectual property rights.

#### 7.10.5 The Replacement Periods Associated with Intangible Resources

##### 7.10.5.1 Results Which Are Novel

"Company Reputation", "Product Reputation" and "Employee Know-how" were assessed as having the longest replacement periods; although there was a considerable range in the estimates given. The long periods estimated suggest that these resources are not only the main contributors to business success, but they may also be, by virtue of the long time it might take a new entrant to match, the resources which contribute to the sustainability of advantage.

#### 7.10.6 Lead, or Lag, Over Competition

##### 7.10.6.1 Results Which Were Tested For Statistical Significance

It was not possible to identify a correlation between the lead, or lag, in know-how etc. which a company enjoyed over its competitors, and sales growth. It is noteworthy that the range of time estimates given was very low, with very few being in excess of two years.

#### 7.10.7 Distinctive Competence

##### 7.10.7.1 Results Which Have Statistical Significance

A very slight correlation was established between "Sales growth" and "Perception of growth in the single most important intangible resource"

for the period 1987 to 1990. It was not possible to establish the nature of this linkage.

##### 7.10.7.2 Results Which Are Novel

The response to the question regarding distinctive competence brought out for the first time in the survey the issue of quality. 23 % of the respondents cited "Quality" as the single most significant source of distinctive competence/superior capability. Some respondents may have been quoting quality as a product attribute, others may have been quoting quality in the sense of "Perception of high quality standards", i.e. an aspect of culture. The possibility of this type of confusion was eliminated in the case study interviews where quality was listed as a product attribute in the "Recipe" of competitive advantage, and as an aspect of culture in the list of intangible resources.

#### 7.10.8 Summary of Section 7.10

A questionnaire can be likened to a table d'hôte menu - the items which can be consumed are already defined. It is necessary to expand on the results of any questionnaire by means of interviews which allow the introduction of subjects which may be relevant to the investigation, but which were omitted from the questionnaire.

The importance attached to quality in the last question regarding distinctive competence, caused the introduction of sub-sets of culture such as: perception of quality standards, ability to manage change, and ability to learn, into the case study investigations.

## CHAPTER 8 A COMPARISON OF THE PILOT AND NATIONAL SURVEYS

### 8.1 INTRODUCTION

The purpose of this Chapter is to compare the results of the pilot and the national survey to see if any further insights can be obtained, and to investigate the degree to which they are supportive.

### 8.2 A COMPARISON OF THE QUESTIONS ASKED

This section will highlight the differences between the two questionnaires.

#### 8.2.1 Nature of the Business

Whereas the pilot questionnaire offered respondents a choice of four sectors ("Manufacturing", "Transport", "Trading" and "Services") the national questionnaire introduced the sub-divisions of: "Manufacturing Consumer Products" and "Manufacturing Industrial Products"; "Retailing" and "Other Trading". These additional sub-divisions proved to be worthwhile because of the significant differences in the responses of the new sub-divisions; e.g. the two sectors of "Manufacturing Consumer Products" and "Retailing" alone identified "Sales & Marketing" as the most important area of employee know-how.

#### 8.2.2 Contribution to the Success of the Business

Two new categories of intangible resource were included in this section of the national survey; they were "Databases" and "Culture". The decision to include these new categories was prompted by reading and discussion. The fact that they were accorded high scores in the national survey

indicates the correctness of the decision to include them. Two new questions were asked regarding "The Most Important Area of Employee Know-how" and the individual intellectual property rights of "Patents", "Registered Designs", "Copyright", "Registered Trademarks" and "Unregistered Brand names". Both of these new questions provided new interesting data.

#### 8.2.3 Replacement Periods

The only change to this question was the inclusion of "Databases" in the national questionnaire.

#### 8.2.4 Lead or Lag over Competition

The only change to this question was the inclusion of "Databases" in the national questionnaire.

#### 8.2.5 Distinctive Competence and Change in the "Stock" of Intangible Resources

The question regarding distinctive competence was introduced for the national survey and the responses to this question prompted the inclusion in the case studies of sub-sets of "Culture" such as "Ability to Manage Change" "Perception of High Quality Standards" etc.

### 8.3 A COMPARISON OF THE RESPONDENT SAMPLES

The composition, by sector, of the two respondent samples is shown in Table 8.1.



<u>Sector Category</u> (Identified by Respondent)	<u>Number of Co.'s</u>	
	<u>National</u>	<u>Pilot</u>
<i>Companies operating in one sector only</i>		
Manufacturing Consumer Products	10 )	17
Manufacturing Industrial Products	21 )	
Retailing	10 )	9
Other Trading	4 )	
Transport	16	1
Services	21	2
<i>Diversified Companies</i>	13	
	---	--
<u>Total</u>	95	29

Table 8.1. The Two Respondent Samples

If it were not for the established differences in the perceptions of the two "Manufacturing" sub sectors all the manufacturing respondents from both the pilot and the national surveys would have been combined to produce one "Manufacturing" sector sample comprising 48 companies.

#### 8.4 A COMPARISON OF THE RESULTS REGARDING THE CONTRIBUTION TO BUSINESS SUCCESS

A comparison of the rankings derived from the two samples is shown in Table 8.2.

	Pilot Ranking (N = 29)	National Ranking (N = 95)
Company Reputation	1	1
Product Reputation	1	2
Employee Know-how	1	3
Culture	n/a *	4
Networks	4	5
Specialist Physical Resources	5	6
Databases	n/a *	7
Supplier Know-how	6	8
Intellectual Property Rights	7	12
Contracts	7	11
Distributor Know-how	9	9
Trade Secrets	9	13
Public Knowledge	11	11

\* n/a - 'Not asked'

Table 8.2. The Relative Importance of the Contribution made by each Intangible Resource to the overall Success of the Business in 1990

The identity of the three most important contributors was the same in both surveys. The only difference in the rankings worthy of comment is the placing of "Intellectual Property" which was last in the national survey and 7th (out of 11) in the pilot survey. The sectoral analysis in the national survey identified a low ranking for "Intellectual Property" in all sectors. No reason can be established for the difference in the ranking of "Intellectual Property" in the two surveys.

In both the pilot, and the national survey, the "people dependent" resources were identified as making a more important contribution to business success than the "people independent" resources.

### 8.5 A COMPARISON OF THE RESULTS REGARDING THE LENGTH OF REPLACEMENT PERIODS

The estimated replacement periods for the different intangible resources, and their rankings, are shown in Table 8.3.

	Pilot (N = 29)		National (N = 95)	
	Ranking	Yrs.	Ranking	Yrs.
Company Reputation	1	7.0	1	10.8
Product Reputation	2	6.3	2	6.0
Employee Know-how	3	4.2	3	4.6
Supplier Know-how	4	3.5	5	3.1
Networks	5	2.8	4	3.4
Databases	n/a	n/a	6	2.1
Distributor Know-how	6	2.5	7	1.7

Table 8.3. Replacement Periods associated with the different  
Intangible Resources

With the exception of the average replacement time estimated for "Company Reputation" both the estimates, and the rankings, arising from the two samples match well.

In both surveys the intangibles which were rated as making the most important contribution to business success, were assigned the longest replacement periods. This demonstrates that the intangible resources which are key to competitive advantage are also, by virtue of the long time it would take a competitor starting from scratch to match, contributors to the defendability of the advantage.

#### 8.6 A COMPARISON OF THE RESULTS REGARDING LEAD OR LAG OVER COMPETITION

The result of the analyses of the responses to this question in both surveys was disappointing. It seemed reasonable to search for a correlation between lead in, say, "Employee Know-how", and "Sales Performance", but none could be found. It can be argued that a more likely correlation would be between "Lead in Employee Know-how" and "Change in Market Share". Market share data was not sought, and further research is indicated to establish whether such a correlation exists.

It is noteworthy that the estimates given for lead/lag varied very little; 5 years was the largest estimate given for any lead.

#### 8.7 A COMPARISON OF THE RESULTS REGARDING THE CHANGE IN "STOCK" OF INTANGIBLE RESOURCES

The questions regarding the change in "stock" of intangible resources varied between the two surveys. The pilot survey question was:

"The factors which have been the subject of this questionnaire, i.e. Reputation, Know-how, Networks, etc. have been described as "Intellectual Resources". If it is possible to think in terms of the "stock" of "Intellectual Resources" which your company owns, can you estimate the movement in the level of this "stock" in your company in the last three years:

Significant Growth  
Growth  
No Change  
Decline  
Significant Decline "

The question posed in the national survey was:

"The success of your operations may be measured in various ways, e.g. profitability, growth, financial strength etc.. The sustained achievement of one, or more, of these measures of success will be due to a

superior capability or a *distinctive competence*. "If it is possible to do so please indicate which of the following categories has been the single most important resource with respect to your distinctive competence: *Databases, Contracts, Public Knowledge, Company Reputation, Know-how, Networks, Intellectual Property Rights, Product Range Reputation, Company Culture, Specialist Physical Resources, Total Quality Capability, Not Applicable ?*" (Mark one only)

The question went on to ask:

"If it is possible to think in terms of the "quantity" and "quality" of the one key resource identified above, can you indicate how it has changed in the last three years:

Significant Enhancement  
Enhancement  
No Change  
Decline  
Not Applicable

This last question was more open ended in the national survey, and as a result it elicited different responses.

## 8.8 CONCLUSION TO CHAPTER 8

The pilot survey was carried out as a trial run in order to act as a guide to the nature of the national survey. The results of the pilot survey were not intended to be combined with those of the national survey; however where the two surveys can be compared the results are generally supportive.

## CHAPTER 9 THE FINDINGS OF THE CASE STUDIES

### 9.1 INTRODUCTION

The purpose of the case study stage of the empirical programme was to confirm and enhance the findings of the postal surveys in relation to the proposed hypotheses. In particular the case studies were designed to:

- Enhance the findings of the national questionnaire by seeking the views of senior executives in circumstances which would allow the interchange of information, opinion and ideas.
- Test the technique devised for analysing intangible resources based on the theoretical framework developed in Chapter 4.
- In the light of the findings of the national survey to investigate the role of cultural aspects such as: perception of quality standards, ability to manage change, ability of the organisation to learn, etc.

The companies approached for the case study stage were chosen on the grounds that they would be prepared, and able, to validate the technique. These criteria meant that all the companies which took part in the study were successful. The six companies involved in the case studies did so on the condition that the results would be confidential and that their identity would not be disclosed in any publication. They are therefore referred to anonymously, and the relevant details are shown below:.

<u>Nature of Business</u>	<u>Sales p.a. £ million</u>	<u>Participating Executive</u>	<u>Case Study Code</u>
Motor Manufacturing	361	Personnel Director	M 1
Manufacturer of Branded Snack Foods	17	M.D.	M 2
Manufacturer of Branded Outdoor Clothing	16	M.D.	M 3
Baker and Retailer	87	M.D. (North East Division)	M+R
Bus Company	45	M.D.	T
Supermarket Retailer	231	Personnel Director	R

All of these companies are located in the North of England, and most of the executives approached had had dealings with the University of Newcastle upon Tyne; in consequence they were possibly more willing to co-operate in this research programme than would have been executives who were complete strangers. A total of seven executives were approached. One declined to take part in the exercise on the grounds of confidentiality.

In addition to obtaining the agreement of each executive to take part in the study, it was necessary to communicate to them the theoretical nature of the study; this was done by means of letters, notes, and articles. Copies of this correspondence are contained in Appendix III.

## 9.2 A NEW ANALYSIS TECHNIQUE

In Chapter 4 an analysis framework was developed using the concepts of capability differentials developed by Coyne (1986). This framework is re-presented in Figure 9.1.





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This framework differs slightly from that shown in Chapter 4 as the expression "Differential" has been dropped. It was not part of the case study investigations to directly address the question of the differentials which existed between the capabilities of the subject companies and their competitors. This question was addressed indirectly by examining the sustainability of the intangible resources. The expression "Regulatory Differential" was therefore not appropriate in the analysis whereas the expression "Regulatory Capability" was.

#### The Four Capabilities

Competitive advantage can derive from one, or more, of the four capabilities (regulatory, positional, functional and cultural) but only these four. In that sense they are exhaustive.

#### Intangible Resources

Each intangible resource can be uniquely associated with one capability. The framework makes clear the distinction between assets and competencies. Some writers on strategy suggest that the source of competitive advantage is distinctive competence. The source of competitive advantage may be an intangible resource which is an asset; for example the landing rights at an international airport may be the source of competitive advantage even if the operator has no distinctive competence at all.

The theoretical construct shown in Figure 9.1 was developed so that it could be used as a new strategic analysis technique. The stages of this analysis technique, which formed the basis of the structured interviews carried out in the case studies, is shown in Figure 9.2

Figure 9.2 The Framework used in the Structured Case Study Interview

STAGE 1. THE 'RECIPE' OF THE COMPETITIVE ADVANTAGE (C.A.)

Price ...%	Quality ...%	Functionality ...%	Aesthetics ...%	Availability ...%
Image ...%	After Sales Service ...%	Innovation ...%	Customer Convenience ...%	Total 100%

STAGE 2. THE ROLES OF THE CAPABILITIES IN PRODUCING COMPETITIVE ADVANTAGE

REGULATORY	POSITIONAL	FUNCTIONAL	CULTURAL
Protectable in law.  (1) .... % contribution to C.A	Due to previous endeavour.  (2) .... % contribution to C.A.	Due to skill & experience.  (3) .... % contribution to C.A.	Aptitudes of the Organisation  (4) .... % contribution to C.A.

Note : (1) + (2) + (3) + (4) = 100 %

STAGE 3. THE CONTRIBUTION OF INTANGIBLE RESOURCES TO COMPETITIVE ADVANTAGE

Trade Secrets ... %	Databases ... %	Know-how of: ... %	Percepation of: ... %
Contracts ...	Reputation of Prod. ...	Employees ...	Quality ...
Licences ...	Reputation of Co. ...	Suppliers ...	Service ...
Patents ...	Networks ...	Franchisors ..	Ability to manage change ...
Copyright ...	Value Chain configurn. ..	Distribrs. ...	Ability to innovate ...
Trademarks ...	Established distribution network ...	Franchisees ..	Team working ability ...
Regd. designs. ...			Participative Mgt. style ..

Figure 9.2 (Continued) The Framework used in the Structured Case Study Interview

STAGE 4. THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE

4.1 How easy is it for the competition to match the product/delivery system attributes which produce the competitive advantage :

	Easy	Medium Difficulty	Difficult
Price	( )	( )	( )
Quality	( )	( )	( )
Functionality	( )	( )	( )
Aesthetics	( )	( )	( )
Availability	( )	( )	( )
Image	( )	( )	( )
After Sales Service	( )	( )	( )
Innovation	( )	( )	( )
Customer Convenience	( )	( )	( )

4.2 How sustainable are the capability differentials ? i.e. how durable is the superiority of the key intangible resources ?

Key Intangible Resources*	Low	Medium	High
4.2.1 _____	( )	( )	( )
4.2.2 _____	( )	( )	( )
4.2.3 _____	( )	( )	( )
4.2.4 _____ etc.	( )	( )	( )

\* Identified from sections 2 & 3.

STAGE 5. THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

How should the key intangible resources be managed with respect to :  
recognition, protection, exploitation and enhancement ?

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### 9.3. THE FRAMEWORK OF THE STRUCTURED INTERVIEW

The format shown in Figure 9.2 formed the basis of the structured interview used with the senior executives of the six companies which participated in the case study programme. The content, process and objectives of the stages of the analysis technique are shown below:

#### *Stage 1. The "Recipe" of the Competitive Advantage*

The objective of this first stage was to identify the nature of the competitive advantage, i.e. to identify the relative contribution made by the key product attributes such as: quality, image, availability, etc.

The "recipe" of competitive advantage was determined by identifying the relative contribution which each factor made to the overall advantage. The result for the outdoor clothing company is shown in Table 9.1.

	% Contribution
Functionality	30
Image	30
Quality	10
Aesthetics	10
Availability	10
After Sales Service	10
	---
Total	100

Table 9.1. The "Recipe" of Competitive Advantage

#### *Stage 2. The Relative Contribution which each Capability makes to Competitive Advantage*

The objective of the second stage was to identify the

relative contribution which each capability makes to competitive advantage. In doing this executives were assessing both the *importance*, as well as the *strength*, of the capability; for example the importance of the regulatory capability will be related to, say, a patent; whilst the strength will be related to the company's ability to pursue legal issues. The importance of the functional capability will be related to a particular skill, say labour productivity, whilst the strength may be related to the training capability of the organisation etc.

The nature of the analysis process may be illustrated with the results for the snack food company, shown in Table 9.2.

<u>Capability</u>	<u>% Contribution</u> <u>to Competitive Advantage</u>
Cultural (Capabilities of the Organ.)	60
Functional (Skills & Experience)	25
Positional (Due to previous endeavour)	10
Regulatory (Protectable in law)	5
	---
Total	100

Table 9.2. The Contribution of the Capabilities

Stage 3. The Relative Contribution which each Intangible Resource makes to each Capability .

The objective of this stage was to identify the relative contribution which each intangible resource made to each capability. The analysis process is again illustrated with the data from the branded snack food company which is shown in Table 9.3.

<u>REGULATORY</u>	<u>POSITIONAL</u>	<u>FUNCTIONAL</u>	<u>CULTURAL</u>
%	%	%	%
Regd. Designs 100	Reputation of Product 60	Know-how of: Employees 55	Perception of: Quality 30
	Reputation of Company 10	Suppliers 20	Service 10
	Networks 30	Distribs. 25	Ability to manage change 20
			Ability to innovate 30
			Team working ability 10
Totals 100	100	100	100

Table 9.3. The "Recipe" of Each Capability

The identification of the key intangible resources may now be calculated. The calculation may be illustrated (Table 9.4) by using the % contribution figures given in stages 2 and 3, which, for the branded snack food company, resulted in the identification of "Perception of quality standards" and "Ability to innovate", as the key intangible resources;

	<u>% Contribution of each Capability to Competitive Advantage</u>
Regulatory	5
Positional	10
Functional	25
Cultural	60*
	---
Total	100

	<u>Feed stock Resources % Contribution to Cultural Capability</u>
Perception of quality standards	30*
Perception of customer service	10
Ability to manage change	20
Ability to innovate	30*
Team working ability	10
	---
Total	100

Table 9.4. The Identification of the Key Intangible Resources

\* 'Perception of quality standards' and 'Ability to innovate' score a net weighting of 18% ( 60% x 30%). This is the highest score and it therefore suggests that these two intangible resources are the most important for the company as a whole.

It may be argued that this two stage assessment technique is unnecessary as executives, in assessing the importance of, say, the positional capability, are assessing the importance of the patents which may be the key intangible resource in that capability. This argument ignores the fact that it is necessary to assess also the organisation's capability in legal matters generally before assessing the importance of the patents within that legal capability. Unless one is prepared to vigorously defend a patent it is of little use.

Stage 4. The Sustainability of the Competitive Advantage

In identifying the sustainability of competitive advantage we need to be concerned with two aspects:

- the sustainability of the key product attributes,
- the durability of the lead (over the competition) enjoyed by the key intangible resources which produce the attributes.

The sustainability of the key product attributes was identified by asking the question "How easy is it for the competition to match the key product attributes ?" The response obtained from the motor manufacturing company is shown in Table 9.5:

	<u>Easy</u>	<u>Medium</u> <u>Difficulty</u>	<u>Difficult</u>
Price	X (in the short term)		
Quality			X
Image		X	

Table 9.5. The Ease With Which The Competition Can Match The Key Product Attributes

The contribution of the key intangible resources to the sustainability of the advantage was identified by asking the question: "How durable is the lead enjoyed by the key intangible resources which are responsible for producing the competitive advantage? The response given by the company quoted above to this question is shown in Table 9.6:



	<u>Low</u>	<u>Medium</u>	<u>High</u>
Reputation of Product	X (note 1)		X (note 2)
Know-how of employees			X
Culture			X

Table 9.6. The Durability Of The Lead Enjoyed By The Key Intangible Resources

Note 1. With respect to the possibility of it being lost due to misfortune.

Note 2. With respect to the ability of the competition to match the company's reputation.

#### Stage 5. The Management of the Key Intangible Resources

Each structured interview concluded with the question: "How should the key intangible resources be managed with respect to: recognition, protection, exploitation and enhancement ?"

### 9.4 THE ANTICIPATED BENEFITS

The benefits which it is believed that managers will derive from this technique are threefold:

- The identification of the intangible resources which are key to success.
- The ability to communicate this information throughout a management team by the use of the analysis technique framework.
- Subsequent upon the identification of the key intangible resources the need to focus on the issues of the protection, exploitation and enhancement of these resources.

The technique may be likened to a psychometric test for individuals in as much as both are based on perceptions. If extensive validation can be achieved for the new intangible resource analysis technique then it may be possible to identify typical profiles for companies in different sectors, with different growth rates etc.

#### 9.5 A SUMMARY OF THE CASE STUDY RESULTS

Whilst the main subject of this Chapter concerns the case studies which were carried out in 1991, reference will be made to the national postal survey which was carried out in 1990.

The sections which follow contain the summary results of the case studies, with comparison, where appropriate, with the results of the postal survey.

##### Stage 1. Competitive Advantage

The most commonly quoted attributes making up the "recipe" of competitive advantage were: quality, availability, image and price; although there was considerable variation in the six "recipes". This variation is to be expected given the varied nature of the six companies studied. The relative contributions which the different "ingredients" made to the "recipes" of competitive advantage are shown in Table 9.7.

	The % Contributions to Competitive Advantage					
	Motor Manufr.	Packaged Food	Outdoor	Bakery Clothing	Transport	Food Retlr.
	%	%	%	%	%	%
Quality/Functionality	20	30	40	25	5	20
Availability/ Outlet locatn.	15	10	10	25	90	40
Image	10	15	30	10		20
Price	20	10		20	5	15
Aesthetics	15	25	10			
Innovation	5	10				
Customer Serv. /A.Sales Serv.	15		10	20		5
	---	---	---	---	---	---
Total	100	100	100	100	100	100

Table 9.7. The "Recipes" of Competitive Advantage

The product attribute of "Availability/ Outlet Location" was rated 1st (or 1st equal) by the executives from the bakery, transport and retailing companies. These three companies deal direct with the public, whereas the manufacturers deal through distributors. The three manufacturers on the other hand rated "Quality/Functionality" as the most important product attribute.

Stage 2. The Contribution which Capability makes to Competitive Advantage

The ranking of the contributions which the different capabilities make to competitive advantage are shown in Table 9.8 and 9.9.

The % Contributions to Competitive Advantage						
<u>Capability</u>	Motor Industry %	Packaged Food %	Outdoor Clothing %	Bakery %	Transport %	Food Retailer %
Regulatory	10	5	10	10	nil	10
Positional	20	10	40	30	35	35
Functional	30	25	25	30	65	30
Cultural	40	60	25	30	nil	25
Total	100	100	100	100	100	100

Table 9.8. The Contributions which Capabilities make to Competitive Advantage.

The scores shown in Table 9.8 may be presented in ranked format as shown in Table 9.9.

<u>Capability</u>	<u>Number of times placed:</u>			
	1st	2nd	3rd	4th
Regulatory (e.g. patents)	0	0	0	6 times
Positional (e.g. reputation)	3 times	1 time	2 times	0
Functional (e.g. know-how)	2 times	4 times	0	0
Cultural (e.g. ability to manage change)	3 times	1 time	1 time	1 time

Note: The rows total 6 equalling the number of case studies; the columns do not always total 6 due to the incidence of '1st equals' etc.

Table 9.9 The Data Presented in Table 9.8 Re-presented in Ranked Format

The three companies which rated "Availability/Outlet Location" as the most important product attributes rated the Positional Capability as either 1st or 2nd most important Capability. This is to be expected as the Positional

Capability comprises aspects of the company which have taken time to acquire, which are the result of previous endeavour, and typically distribution networks, which enable availability to be achieved, fall into this category.

### Stage 3. The Key Intangible Resources

The intangible resources most commonly identified as being key are:

Employee Know-how  
 Perception of Quality Standards  
 Product Reputation  
 Company Reputation

This group of resources is very similar to that obtained in the national postal survey. The results of the postal survey are presented in Table 9.10:

<u>Intangible Resource</u>	<u>Postal Survey (N=95)</u> <u>Top 5 Rankings</u>
Company Reputation	1
Product Reputation	2
Employee Know-how	3
Culture	4
Networks	5

Table 9.10. The Relative Importance of the Contribution which Intangible Resources make to Business Success

*case studies*  
 The most significant difference between the pilot survey and the national survey is the importance accorded to "Perception of Quality Standards" and "Ability to Manage Change" by the executives participating in the case stud-

ies. These factors were not featured in the national postal survey but were included in the case studies as a result of the analysis of the national postal survey.

#### Stage 4. The Sustainability of Competitive Advantage

The *sustainability* of competitive advantage has two aspects; one is concerned with the sustainability of the key product attributes, and the other is concerned with the durability of the superiority of the key intangible resources over those of the competition.

##### Stage 4.Part 1.The Sustainability of the Key Product Attributes

This section is concerned with the responses to the question "How easy is it for the competition to match the product attributes which produce the competitive advantage ? "

A summary of the case studies is given in Table 9.11.

	<u>Ability of competitor to match</u>		
	<u>Easy</u>	<u>Medium</u>	<u>Difficult</u>
	Number	of times	identified
Availability	2	1	4
Image	2	2	3
Quality	2	3	2
Aesthetics	1		2
Customer Service			1
Price	5	1	
Functionality	2	1	
After Sales Service	1	2	
Siting of Outlets		1	

Table 9.11. Summary of the Rating of Product Attributes with respect to their Sustainability

Some attributes were scored more than once; e.g. "Quality" was scored "Easy" with respect to the ability of large competitors to match, and "Difficult" with respect to the ability of small competitors to match.

Most of the executives assessed "Price" as being an attribute which it is easy to match in the short term. Whilst price is obviously a factor in the marketing mix, none of the companies held it to be of paramount importance.

#### Stage 4.Part 2.The Durability of the Key Intangible Resources which produce the Competitive Advantage

This section is concerned with the responses to the question " How sustainable are the capability differentials ? i.e. how durable is the superiority of the key intangible resources?" The results of the case studies are summarised in Table 9.12.

	<u>Durability of Key Intangibles</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>
	Number	of time	identified
Employee Know-how *	5	4	7
Product Reputation	1		2
Company Reputation			1
Culture		1	1
Ability to Innovate			1
Ability to Manage Change			1
Perception of Quality		3	1
Distribution Strategy	1		
Distribution Network			1
Databases			1
Networks		1	1

Table 9.12. The Durability of the key intangible resources

\* The interviewees cited many different areas of employee know-how; for example one quoted his R.& D. know-how as highly durable, and his I.T. know-how as of medium durability. All of the sub-sets of know-how (which totalled 11) have been marked against "Employee Know-how" in Table 9.11. It was also the case that some interviewees scored one resource highly and lowly, depending on the time scale involved.

Employee know-how (of all types) was identified as being of medium to high durability 11 times; similarly culture (in all aspects) was identified as being of medium to high durability 5 times; company and product reputation however was only identified 3 times as being of medium to high durability. As one executive remarked " ... reputation can be lost overnight due to unforeseen circumstances ..."



## Stage 5 The Management of Intangible resources

The responses received in this section of the analysis were specific to each company and cannot be summarised. The approach of interviewees to the issue of the *management* of intangible resources tended to be one of defining how they were currently managing the business (which was demonstrably successful), rather than how they should be managing the business because there was clearly something wrong.

### 9.6 THE INDIVIDUAL RESULTS OF THE SIX CASE STUDIES

Each executive who took part in the study received an individual feedback, each of which is presented in the sections which follow, together with notes which give the company background.

#### 9.6.1 CASE STUDY CODE M 1.

##### THE MOTOR MANUFACTURING COMPANY

###### COMPANY BACKGROUND

This company is Japanese owned. It came to the North East of England in the mid 1980's when it operated initially as an assembly plant. It now manufactures, or procures in the U.K., a large proportion of its components. One of the company's major achievements has been project planning; from a 'green field' site in 1985 the company now has over 2,500 employees; sales in excess of £400 million, and is a significant contributor to U.K. exports. There is a strong corporate culture which is largely due to its recruitment policy. There is heavy demand for jobs at the plant, and typically there are 15 applicants for every vacancy. The selection process is extremely thorough; each successful

applicant (who is usually approximately 20 years of age) will have been tested for six hours, and the final recruitment decision will have been taken by the supervisor who will be responsible for the new recruit. This recruitment process results in high self esteem on the part of the new recruit and a strong bond between him and his supervisor. Like many Japanese companies great stress is placed on quality and constant improvement, both of which are facilitated by continuous training and development programmes.

The competitive advantage is held to be "in the eye of the beholder". Reasons for buying the product vary from customer to customer, i.e the fleet buyer has criteria which are different to those used by a private customer. With this proviso the key product attributes, in general, are viewed as being those shown in stage 1.

*M1/STAGE 1. THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE*

Quality/Functionality	20%	Image	10%
Price	20%	Availability	15%
Aesthetics	15%	Innovation	5%
Customer Service	15%		

*M1/STAGE 2. THE ROLES OF THE FOUR CAPABILITIES*

Regulatory	10%	Positional	20%
Functional	30%	Cultural	40%

M1/STAGE 3. THE CONTRIBUTION OF INTANGIBLE RESOURCES  
TO COMPETITIVE ADVANTAGE

<u>REGULATORY</u> <u>CAPABILITY</u>	<u>POSITIONAL</u> <u>CAPABILITY</u>	<u>FUNCTIONAL</u> <u>CAPABILITY</u>	<u>CULTURAL</u> <u>CAPABILITY</u>
Trade Secrets 10	Reputation of Prod. 50	Know-how of: Employees 70	Perception of: Quality 17
Contracts 70	Reputation of Co. 40	Suppliers 20	Service 17
Patents 20	Distribtn. Network 10	Distribts. 10	Ability to Manage Change (Flexibility) 17
			Ability to Innovate 17
			Team Working Ability 17
			Participative Mgt. Style 17
Totals 100	100	100	100

M1/STAGE 4. PART 1. THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE

How easy is it for the competition to match the product/delivery system attributes which produce the competitive advantage ?

	<u>Easy</u>	<u>Medium</u> <u>Difficulty</u>	<u>Difficult</u>
Price	X (in the short term, but for how long?)		
Quality			X
Image		X	

STAGE 4. PART 2 THE DURABILITY OF THE KEY INTANGIBLE  
RESOURCES

How sustainable are the capability differentials ? i.e.  
how durable is the superiority of the key intangible  
resources.

Key Intangible resource	Durability		
	Low	Medium	High
Reputation of Product	X (note 2)		X (note 1)
Know-how of employees			X
Culture			X

Note 1. With respect to the ability of the competition to match.

Note 2. With respect to the possibility of it being lost due to misfortune.

M1/STAGE 5. THE MANAGEMENT OF THE KEY INTANGIBLE  
RESOURCES

The key to the management of the intangible resources is held to be the constant reinforcement (by means of "effortless hard work") of the management philosophy of constant improvement. The philosophy of constant improvement is the culture.

#### 9.6.2 CASE STUDY CODE M 2

##### THE BRANDED SNACK FOOD COMPANY

###### COMPANY BACKGROUND

Founded 1982. Manufactures a national brand of snack food. Currently employs approximately 250, and growing at a rate which doubles volume every two to three years. Sales are made up of:

	%
National Brand	65
Private Label	10
Generic / "Me Too" Products	25
	---
Total	100

The brand embodies the ethos of the company and is held to constitute the company's competitive advantage. The brand was, is, and will be the foundation of the company.

The brand is well established in the U.K. and is poised for development in Europe, U.S.A. and Australasia - research indicates that the brand concept is acceptable to the upper socioeconomic groups in most of the developed world.

The stated policy of the company is to invest cash generated from non brand sales into brand development; brand development will include brand leverage as well as international market development.

The key characteristics of the brand are:

- Newness / freshness
- International / exotic / ethnic foods and flavours
- Authenticity of ingredients - green image
- Packaging:
  - idiosyncratic

revolutionary  
 nostalgic (Victorian)  
 not synthetic  
 cosmopolitan  
 challenging

A corporate plan covering the next four years is currently in preparation. This is being used as a team building exercise with different groups "owning" different initiatives. The plan is deliberately focussing on the management of intangible resources, such as innovative ability, rather than on financial parameters.

M2/ STAGE 1    THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES  
WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE

Price	Quality(1)	Functionality	Aesthetics(2) (Phys.attributes)	Availability
10 %	30 %	nil %	25%	10 %
Image(2)	After Sales Service	Innovation(2)	Total	
15 %	nil %	10 %	100%	

(1) Quality must live up to initial expectation, and thereafter must be consistent.

(2) These three attributes are closely associated /overlap.

M2/STAGE 2 THE ROLES OF THE FOUR CAPABILITIES

<u>REGULATORY</u>	<u>POSITIONAL</u>	<u>FUNCTIONAL</u>	<u>CULTURAL</u>
Protectable in law.	Due to previous endeavour.	Due to skill & experience.	Aptitudes of the Organisation.
5 % contribution to C.A	10 % contribution to C.A.	25% contribution to C.A.	60 % contribution to C.A.

M2/STAGE 3 THE CONTRIBUTION OF INTANGIBLE RESOURCES  
TO COMPETITIVE ADVANTAGE

<u>REGULATORY</u> <u>CAPABILITY</u>	<u>POSITIONAL</u> <u>CAPABILITY</u>	<u>FUNCTIONAL</u> <u>CAPABILITY</u>	<u>CULTURAL</u> <u>CAPABILITY</u>
%	%	%	%
Trade Secrets ...	Databases ...	Know-how of: Employees 55	Perception of: Quality 30
Contracts ...	Reputation of Prod. 60	Suppliers 20	Service 10
Licences ...	Reputation of Co. 10	Distribs. 25	Ability to manage change 20
Patents ...	Networks 30		Ability to innovate(5)30
Copyright ...			Team working ability 10
Trademarks ... (3)			
Regd. designs(4) 100			
Totals 100	100	100	100

(3) It may be possible to trade mark the brand in certain overseas markets.

(4) Regulatory protection is achieved under passing off legislation.

(5) Typified by lateral thinking and iconoclastic approach.

M2/STAGE 4. PART 1 THE SUSTAINABILITY OF COMPETITIVE  
ADVANTAGE

How easy is it for the competition to match the product attributes which produce the competitive advantage:

	<u>Easy</u>	<u>Medium</u> <u>Difficulty</u>	<u>Difficult</u>
Price	x		
Quality		x	
Functionality (efficiency of packaging)	x		
Aesthetics (taste)			x
Availability		x	
Image			x
After Sales Service	x		

M2/STAGE 4. PART 2 THE DURABILITY OF THE KEY INTANGIBLE RESOURCES

How sustainable are the capability differentials i.e. how sustainable are the key intangible resources ?

<u>Key Intangible Resources</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Innovative ability			x
Perception of quality (most competitors now aware of the need for high quality; BS 5750 etc.)		x	
Management of change (change is a constant feature of the organisation)			x
Employee know-how:			
R. & D.			x
Marketing			x
I.T.		x	

N.B The threat does not come from competitors' ability to match current capability, but from the company's ability to maintain capability through time and through growth.

M2/STAGE 5 THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

How should the key intangible resources be managed with respect to:

recognition, protection, exploitation, and enhancement.

An increasing emphasis on multi discipline project team working (matrix structure) is held to be the way to maintain and enhance the current key intangible resources.

Protection

The formal and universal recognition of the importance of the management of intangible resources is held to be the most effective protection possible.



### Exploitation

As above: Market development; brand leverage. Increasing emphasis on project teams is held to be the best way of maintaining / enhancing the current company culture (characterised high innovative capability, high perception of quality, high ability to manage change) through time and through growth.

### 9.6.3 CASE STUDY CODE M 3

#### THE OUTDOOR PERFORMANCE CLOTHING COMPANY

##### COMPANY BACKGROUND

This company was initially formed to supply specialist walking and mountaineering equipment to enthusiasts by importing, manufacturing, and retailing. It *now concentrates* on the manufacture of a range of specialist branded clothing which it designs, manufactures, and sells through third party distributors, both in the U.K. and overseas.

The company has experienced considerable growth in recent years (as high as 30% p.a. in the late 1980's). The brand name has become fashionable to the extent that its presence on the product is held to be one of the key product attributes. The product range has increased in size and complexity as the demand from different market segments has grown. There is a clear opportunity to leverage the brand name by applying it to other, related products, but the company is understandably hesitant to do this as the management understands that the quality of the brand image can easily suffer if the functional attributes of the new products which bear the name do not live up to the original high standards. Indeed management recognise that an over-riding objective is to continue to improve the operating characteristics of the original clothing products. The question of assigning a balance sheet valuation to the brand name is a matter for the company to consider.

The company has been in danger of over-trading in recent years but is now consolidating its position. A programme of total quality management is currently underway, and the product range is being rationalised.

M3/STAGE 1 THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES  
WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE

Price	Quality	Functionality(1)	Aesthetics	Availability
nil	10 %	30 %	10 %	10 %
Image(2)	After Sales Service	Total		
30 %	10 %	100%		

(1) The number 1 brand in performance clothing must *perform* in terms of breathability, weatherproof qualities etc.

(2) The image presented by the visible brand name tag on the clothing is a key consideration to the end user.

M3/STAGE 2 THE ROLES OF THE FOUR CAPABILITIES

<u>REGULATORY</u>	<u>POSITIONAL</u>	<u>FUNCTIONAL</u>	<u>CULTURAL</u>
Protectable in law.	Due to previous endeavour.	Due to skill & experience.	Aptitudes of the Organisation.
10 % contribution to C.A	40 % contribution to C.A.	25 % contribution to C.A.	25 % contribution to C.A.

M3/ STAGE 3. THE CONTRIBUTION OF INTANGIBLE RESOURCES  
TO COMPETITIVE ADVANTAGE

<u>REGULATORY</u> <u>CAPABILITY</u>	<u>POSITIONAL</u> <u>CAPABILITY</u>	<u>FUNCTIONAL</u> <u>CAPABILITY</u>	<u>CULTURAL</u> <u>CAPABILITY</u>
%	%	%	%
Trade Secrets ...	Databases ...	Know-how of:	Perception of:
Contracts(3) 5	Reputation of Prod. 40	Employees 60	Quality 40
Licences(4) 10	Reputation of Co. 40	Suppliers 15	Service 20
Patents 15	Personal Networks 20	Distribs. 10	Ability to manage change 20
Copyright ...		Export agents 15	Ability to innovate 10
Trademarks 60			Team working ability 10
Regd. designs. 10			
---	---	---	---
Totals 100	100	100	100

(3) Military contracts.

(4) Licensed user of "Goretex" fabric.

M3/STAGE 4. PART 1. THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE

How easy is it for the competition to match the product attributes which produce the competitive advantage:

	<u>Easy</u>	<u>Medium</u> <u>Difficulty</u>	<u>Difficult</u>
Price	x		
Quality		x	
Functionality		x	
Aesthetics			x
Availability			x
Image			x
After Sales Service		x	

M3/STAGE 4. PART 2: THE DURABILITY OF THE KEY INTANGIBLE RESOURCES

How sustainable are the capability differentials i.e. how sustainable is the superiority of the key intangible resources ?

<u>Key Intangible Resources</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Reputation of product			x
Reputation of company			x
The organisation's perception of quality standards			x
The know-how of employees:			
Design			x
Sales & Marketing			x
Manufacturing	x		
I.T.	x		

M3/STAGE 5 THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

How should the key intangible resources be managed with respect to: recognition, protection, exploitation, enhancement ?

Consequent on the introduction of a T.Q.M. initiative, and multi-functional project team working there is now wide recognition of the importance of: product and company reputation, total quality, and the need to constantly update employees' know-how; it is held that this recognition is in itself the best protection.

The key intangible resources are being exploited by means of international market development, and brand leverage.

The key intangible resources are now being enhanced by means of a smaller, more tightly focussed product range which is giving a sharper image in the market, and a more manageable range from the operations viewpoint. In addition the T.Q.M. initiative and the multi-functional project teams are enhancing the organisation's perception of total quality and employee know-how.

#### 9.6.4 CASE STUDY CODE M + R

##### BAKER AND RETAILER

##### COMPANY BACKGROUND

The company bakes bread and sells it through approximately 450 shops throughout U.K.; approximately 90 of the outlets are situated in the North East of England. A key aspect of the company's strategy is to bake only for its own outlets; this is in spite of opportunities to supply major retailers, such as Marks and Spencer. The rationale for this strategy is that the key to success is held to be product quality and product freshness. It is believed that both these would be compromised if a large third party customer were to be accepted.

The company became a public company in 1984. Growth has been approximately 10% p.a. in the late 1980's, and it has been both organic and by acquisition. The company is run as 8 separate regional businesses, and the case study was based on the North East operating company.

The competitive advantage is held to be the ability to meet customers needs in terms of convenience (siting of shops), product freshness, good service and price.

##### M+R/STAGE 1. THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE

Price	Quality	Image	Customer Service	Availability	Total
20%	25%	10%	20%	25%	100%

M+R/STAGE 2. THE ROLES OF THE FOUR CAPABILITIES

<u>REGULATORY</u>	<u>POSITIONAL</u>	<u>FUNCTIONAL</u>	<u>CULTURAL</u>
Protectable in law.	Due to previous endeavour.	Due to skill & experience.	Aptitudes of the Organisation.
10% contribution to C.A	30 % contribution to C.A.	30 % contribution to C.A.	30 % contribution to C.A.

M+R/STAGE 3 THE CONTRIBUTION OF INTANGIBLE RESOURCES  
TO COMPETITIVE ADVANTAGE

<u>REGULATORY CAPABILITY</u>	<u>POSITIONAL CAPABILITY</u>	<u>FUNCTIONAL CAPABILITY</u>	<u>CULTURAL CAPABILITY</u>
%	%	%	%
Contracts(1) 100	Reputation of Prod. 33	Know-how of: Employees 100	Perception of: Quality(3) 20
Licences ...	Reputation of Co. 33	Suppliers ...	Customer Service(3) 20
Patents ...	Networks ...	Distribs. ...	Ability to Manage Change(3) 20
Copyright ...	Previous Distribution Strategy(2) 33		Participative Management Style(3) 40
Trademarks ...			
Regd. designs. ...			
Totals 100	100	100	100

(1) Shop leases.

(2) A consistent sales & distribution strategy has been followed which precludes sales to trade customers e.g. Marks and Spencer or wholesalers; all production is distributed through extensive networks of small, owned shops. This strategy has avoided the conflict between satisfying trade customers and maintaining quality of product through own outlets.

(3) Participative management, with quality circles, has been a

feature of the business for many years. Employee involvement, and employee "ownership" of change initiatives, are strong features of the culture of the business.

*M+R/STAGE 4. PART 1 THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE*

How easy is it for the competition to match the product attributes which produce the competitive advantage:

	<u>Easy</u>	<u>Medium Difficulty</u>	<u>Difficult</u>
Price		x	
Quality		x	
Aesthetics	x		
Availability			x
Image		x	
Customer Service			x

*M+R/STAGE 4. PART 2 THE DURABILITY OF THE KEY INTANGIBLES*

How sustainable are the capability differentials i.e how durable is the superiority of the key intangible resources ?

<u>Key Intangible Resources</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Employee know-how (competitors would take a long time to match)			x
The organisation's perception of quality (competitors recognise the need for quality, BS 5750 etc.)		x	
Distribution strategy (easily copied, although most other companies with similar distribution strategy are either small, or have been bought by the company)	x		
The culture of the organisation (employee involvement, participative management style, perception of quality)		x	



M+R/STAGE 5. THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

How should the key intangible resources be managed with respect to: recognition, protection, exploitation and enhancement ?

Employee know-how/attitudes should not be taken for granted.

The organisation's perception of quality is a strength which could be built upon.

The strength of the distribution network, allied to reputation, means that the company is ideally placed to advertise and promote the company name.

The nature and strength of the organisation's culture could be a foundation for doing other things.

#### 9.6.5 CASE STUDY CODE T

##### THE BUS COMPANY

##### COMPANY BACKGROUND

The company is one of the two major bus companies operating scheduled bus services within the Tyneside region.

The market is de-regulated and approximately 85% of services are run on routes where other competitors are free to operate. The balance of the services are operated on routes which would not be financially viable without a local authority subsidy. The right to receive such a subsidy is won by tender, and the subsidy contract is re-tendered for from time to time. Other subsidies play a part in the bus company's services, such as reduced fares for old age pensioners, and these subsidies apply to all routes.

Customers can therefore be identified as the general public, and the local authorities.

The product is a journey opportunity. This is offered to customers by means of scheduled services. It follows that if customers do not avail themselves of the opportunity to travel then the product immediately has zero residual value.

Whilst the direct competition is other bus companies, the indirect competition is car journeys which the consumer costs on the basis of marginal costs only. Car journeys

are impacting on the size of the total market more severely than competition is impacting on the company's market share.

The scheduled regional bus market is currently in decline due to competition from cars, but also due to the demographic trends of declining absolute numbers of under 25 year olds. This declining market trend may be reversed in the next ten years due to increasing traffic congestion, and parking difficulty, causing regulations to limit the use of private cars.

The strategic aim of the company is to maintain/grow market share until such time as the market starts to grow. In the currently declining market this results in short/medium term defensive/survival strategies.

The key operating features of the company are to:

- operate and defend the historical structure of routes in such a way that the more profitable routes subsidise the less profitable routes thus maintaining the integrity of the whole network.
- allocate and utilise the resources of staff and equipment in the optimum manner; this means efficient routing and time-tabling, efficient driving (buses get to bus stops on time) and efficient maintenance of equipment.

Competitive advantage is believed to consist of the possession of a network of routes, and the reputation, both with users and competitors, for being the established operator on those routes. In particular the reputation with competitors is such that they believe that any attack by them will produce a serious counter attack. The consequence of this position is that the company is the operator who meets the majority, if not all, of customers' bus journey needs on the established routes. This service is

carried out in such a way that the financial strength of the company is maintained.

*T/STAGE 1. THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE*

Availability 90%	Price 5%	Quality 5%
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Note: whilst the image of this transport company is of little consequence to the end user, it is of consequence with respect to competitors. The image of the company is such that competitors believe that any attack by them will produce a strong counter attack (see also Note 1).

*T/ STAGE 2. THE ROLES OF THE FOUR CAPABILITIES*

Regulatory (of a hygiene nature only)	0%
Positional	35% (Note 1)
Functional	65%
Cultural	0%

Note 1: The positional capability is akin to territorial rights; "possession is nine tenths of the law", and invasion will be repulsed.

*T/STAGE 3. THE CONTRIBUTION OF INTANGIBLE RESOURCES TO COMPETITIVE ADVANTAGE*

<u>POSITIONAL CAPABILITY</u>	<u>FUNCTIONAL CAPABILITY</u>
Distribution Network 100%	Know-how of employees 100%

*T/STAGE 4. PART 1 THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE*

How easy is it for the competition to match the product attributes which produce the competitive advantage ?

	<u>Easy</u>	<u>Medium Difficulty</u>	<u>Difficult</u>
Price	x		
Quality	x		
Functionality	x		
Availability (of routes)	x (short term)		x (long term)
Image	x		

*T/STAGE 4. PART 2 THE DURABILITY OF THE KEY INTANGIBLES*

How sustainable are the capability differentials ? i.e. how durable is the superiority of the key intangible resources ?

<u>Key Intangible resource</u>	<u>Low</u>	<u>Durability Medium</u>	<u>High</u>
Structure of routes			x (Note 2)
Know-how of employees with respect to:			
Scheduling services	x (long term)		x (short term)
Engineering maintenance	x		
Driving to schedule	x		

Note 2 The routes could be vulnerable to a major competitor, and/or if the company were suffering from financial strain or industrial relations problems.

T/STAGE 5. THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

It is necessary to conduct the business in such a way that its positional strength can always be defended (for example as *Polaroid* always aims to be able to defend its instant camera patents).

This requires that the functional skills are nurtured so that financial and operating strengths are maintained.

#### 9.6.6 CASE STUDY CODE 'R'

##### THE SUPERMARKET CHAIN

##### COMPANY BACKGROUND

This company operates in various sectors: car distribution, food retailing, financial services and funeral services. Total sales are approaching £400 million, and the food retailing division represents approximately two thirds of this. The food retailing division operates a wide range of outlets, from hyper-markets to convenience stores; its growth in the late 1980's was at a rate of approximately 10% p.a.

The company manages to achieve an informal culture whilst ensuring that its operations, which are very large scale, are operated effectively.

The company is moving rapidly 'up-market' with respect to the range and quality of the food it offers. Whilst it has little difficulty in educating its existing customers in this regard, it may face problems in convincing potential customers that the reality is different from their perceptions.

The Division's share of the market has risen from 6.5% to 14% in the last 7 years due to:

1. Changing the image of the stores in terms of layout, range of products & services, advertising etc. A key requirement of this change has been to retain the loyalty of the older customers whilst attracting the younger generation.

2. The development of new super/hyper market stores which

sell significant ranges of non food products, as well as foodstuffs. There has also been a significant change in the nature of the food range offered; this now includes much fresh food, some of which would have been described as being of a gourmet nature a few years ago.

3. Changing the character of the small outlets into that of convenience stores - the "8.0 'till late" concept.

The keys to the success of this strategy are held to be: image, style of offering, and the siting of outlets.

R/STAGE 1. THE "RECIPE" OF THE KEY PRODUCT ATTRIBUTES  
WHICH CONSTITUTE THE COMPETITIVE ADVANTAGE

Price	Quality of Product & Service	Aesthetics & Image	Availability of Product
15%	20%	20%	5%
After Sales Service	Siting of Outlets	Total	
5%	35%	100%	

R/STAGE 2. THE ROLES OF THE FOUR CAPABILITIES

<u>REGULATORY</u>	<u>POSITIONAL</u>	<u>FUNCTIONAL</u>	<u>CULTURAL</u>
Protectable in law.	Due to previous endeavour.	Due to skill & experience.	Aptitudes of the Organisation.
10% contribution to C.A	35% contribution to C.A.	30% contribution to C.A.	25% contribution to C.A.



R/STAGE 3. THE CONTRIBUTION OF INTANGIBLE RESOURCES  
TO COMPETITIVE ADVANTAGE

<u>REGULATORY</u> <u>CAPABILITY</u>	<u>POSITIONAL</u> <u>CAPABILITY</u>	<u>FUNCTIONAL</u> <u>CAPABILITY</u>	<u>CULTURAL</u> <u>CAPABILITY</u>
%	%	%	%
Trade		Know-how	Perception
Secrets (1) 6.7	Databases (4) 35	of:	of:
Contracts (2) 6.7	Reputation	Employees (8) 75	Quality 35
Licences (3) 6.7	of Prod. (5) 15	Suppliers 15	Service 30
Patents ...	Reputation	Consultants 5	Ability to
Copyright ...	of Co. (6) 15	Franchisors 5	manage
Trademarks 80.0	Networks (7) 35		change 25
			Nature of
			Promotion 10
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TOTALS 100	100	100	100

NOTES

- (1) Long term aims.
- (2) Contracts with suppliers.
- (3) Licences/agreements with, for example "The XXXXXX Building Society"; for a "shop in shop operation".
- (4) Databases (held on mainframe) covering:
- Finance e.g credit rating of customers
  - Customers e.g ability to target promotions
  - Products e.g what's selling, how much to order
- (5) Own label products are of a high quality (the company's factories supply Sainsbury and Tesco)
- (6) Company image is longstanding and solid; strong with existing customers, not so strong with non customers.
- (7) Strong networks exist not only throughout the U.K., but also throughout Europe.
- (8) Key areas are: - know-how of management team,  
- know-how of distribution team  
- know-how of fresh food personnel.

R/STAGE 4. PART 1 THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE

How easy is it for the competition to match the product/delivery system attributes which produce the competitive advantage:

	Easy	Medium Difficulty	Difficult
Price	x		
Quality			x
(Prod.& Service)	x		
Image/Aesthetics			x
Availability	x		
After Sales Service		x	
Siting of Outlets		x	

R/STAGE 4. PART 2 THE DURABILITY OF THE KEY INTANGIBLE RESOURCES

How sustainable are the capability differentials ? i.e. how durable is the superiority of the key intangible resources ?

<u>Key Intangible Resources</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Databases(Finance, Customers, Prod.)			x
Networks U.K.		x	
Worldwide			x
Know-how of employees:			
Management team (9)		x	
Distribution team(9)		x	
Fresh food team(9)		x	
Perception of quality		x	

Notes

(9) These resources are currently ahead of the field, but the competition could catch up.

*R/STAGE 5. THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES*

A wide recognition of which intangible resources are important is held to be the best protection.

Management development is deliberately carried out across functions.

A key issue is the ability of the management team to maintain the current culture through time and through growth, particularly if the latter is by acquisition.

### 9.7 THE REACTIONS OF THE PARTICIPATING EXECUTIVES

Each executive was asked to evaluate the analysis technique on a pre-printed form (see Appendix III). None knew then, or now, that the results of the study would form part of a PhD thesis. The results of the assessment were as follows:

<u>Company</u> <u>Code</u>	<u>"Identified a new perspective</u> <u>for material already known"</u>	<u>"A useful aid to</u> <u>communications"</u>
M1	"Not convinced such an analysis is worth making"	
M2	Yes	Yes
M3	Yes	no comment
M+R	Yes	Yes
T	Yes	Yes
R	Yes	Yes

The majority assessment that the technique provides a new perspective and aid to communication suggests that the technique is worthy of further development. The fact that all six case study companies were successful needs to be borne in mind. The senior executives of successful companies are very likely to have a clear insight into the nature of their enterprises, and what it is about them which makes them successful. They would be unlikely, as a result of experiencing this technique, to recognise a need to change the way their business was run. Further research is therefore indicated which would involve less successful companies in order to see if the technique affords them a better insight into the nature of their business, and whether an alternative way of managing it is indicated.

## 9.8 THE ANALYSIS TECHNIQUE USED BY A GROUP OF MANAGERS

The Personnel Director of the supermarket chain invited the author to instruct a group of senior managers in the use of the technique as part of the company's in-company management development programme. This exercise took the form of one half day seminar involving 12 managers who were drawn from the parent company's head office, car distribution division, and food retailing division. The seminar took the form of a taught session followed by syndicate work. The objective of the syndicate work was the same as that of the earlier case study carried out with the Personnel Director, except that one of the syndicates was examining the car distribution division, whilst the other reexamined the food retailing.

It was agreed that the detailed results would not be disseminated, but the results of the feedback assessments were made available. Some of the feedback assessments of the seminar are shown below:

### *1.a. The most helpful element of the seminar ?*

" Relating the discussion and theory to the actual business "

### *1.b. The least helpful element of the seminar?*

" Not enough time " (three comments)

### *2. What changes would you make to the content, if any ?*

"More examples and more closely related to our business"

"Should be longer" (three comments)

### *3. What are the main benefits you feel you have gained from the seminar ?*

"The importance of thinking at a strategic level, and taking a longer term view helped and consolidated my views on this important area of management."

" ... the intangibles have usually been ignored when they are extremely important."

"Little due to time of seminar"

4. *Would you be interested in attending further seminars?*

"Yes" (Seven responses)

Whilst this overall assessment is mixed, it is nevertheless held to be encouraging. The next time a similar seminar is mounted more time will be allocated to identifying the issues related to the management of the key intangibles after the analysis has been carried out.

#### 9.9 CONCLUSION TO CHAPTER 9

All executives participating in the case studies were able to grasp quickly the concepts incorporated in the analysis technique. The feedback received indicated that they felt it represented a new perspective for material already known, and that it constituted a useful aid to communication.

The product attributes, the capabilities, and the intangible resources which were identified as being of key importance are shown in Figure 9.3.

THE KEY PRODUCT ATTRIBUTES
Functionality, Quality, Availability, Image, Price, Aesthetics.

THE KEY CAPABILITIES			
POSITIONAL		FUNCTIONAL	CULTURAL

THE KEY INTANGIBLE RESOURCES				
Product Reputation.		Employee Know-how.		Perception of Quality Standards.
Company Reputation.				

Figure 9.3 The Key Product Attributes, the Key Capabilities, and the Key Intangible Resources

The cause and-effect relationship between the feed stock intangible resources and the key product attributes is clear except in the case of the product attribute: "Image", and the intangible resource: "Product Reputation", which are clearly similar. In Chapter 3 it was argued that information, like cash, should be thought of as a feedback factor in so far as it represented both an input and an output factor. Reputation and image are similarly factors which are both inputs and outputs. Image is a key ingredient in the "recipe" of competitive advantage. Reputation is a resource which needs to be husbanded and leveraged. The brand leverage practised by the Mars company illustrates this well: the image of the 'Mars' chocolate bar is a key product attribute with respect to competitive advantage; equally the product's reputation is a resource which can be leveraged by marketing a Mars chocolate ice-cream.

An alternative view is that image is concerned with type, or specification, whereas reputation is concerned with quality, or conformance to specification; thus the image of Jaguar is of a particular type of luxury car, whereas its reputation is concerned with how well the image, or expectation is realised. It is interesting to note that image was assessed as constituting a durable product attribute, whereas reputation was not assessed as representing a durable intangible resource.

The lack of importance accorded to the regulatory capability echoes the findings of the postal surveys. Whilst the role of intellectual property rights is recognised with respect to establishing assets which may be accorded balance sheet valuations, and which may be separable from the company, the considerable time and expense which can be involved in defending property rights may be the reason why they are not accorded more importance. The lack of importance attached to intellectual property rights may



also be due to ignorance, or disinclination. Certainly in view of the importance attached to reputation it would seem to be sensible to obtain whatever protection is available to safeguard any brand name embodiment of that reputation.

The intangible resources identified as key by the executives participating in the case studies were similar to those identified as key by the respondents to the postal surveys. Following the analysis of the postal surveys some new intangible resource categories were introduced with respect to the cultural capability; these were:

Perception of:

- Quality
- Service

Ability to manage change

Ability to innovate

Team working ability

Participative Management style

The cultural sub-sets of "Perception of Quality Standards" and "Ability to Manage Change" were accorded a high degree of importance by the executives participating in the case studies.

The identification of the sustainability of competitive advantage was concerned with the sustainability of the key product attributes, and the durability of the superiority of the key intangible resources which acted as the feed stock factors.

The product attributes which the executives participating in the case studies held to be the most difficult for a competitor to match were: "Availability", "Image", "Quality" and "Aesthetics". The fact that "Price" was not iden-

tified more often as an attribute which was difficult for a competitor to match possibly indicates that the companies studied saw price as being one component in the "recipe" for achieving competitive advantage through differentiation, rather than the single issue which should be pursued at the expense of all others.

The intangible resource which was most often held to have durable superiority was "Employee Know-how". The respondents to the postal survey identified "Employee Know-how" as the intangible resource which had, on average, the longest lead over competition; although this average lead was only estimated as 0.9 years. It seems that whilst the length of such a lead may be assessed as being small, what matters is the ability to stay ahead. This was clearly identified by the M.D. of the branded snack food company who saw the ability of his own people to maintain momentum as the most serious threat, rather than the ability of the competition to catch up by quickening their pace.

The management of the key intangible resources was concerned with identifying how they should be managed with respect to recognition, protection, exploitation and enhancement. Most executives held that the recognition of the key intangibles was the most important aspect, and that if these were recognised by all concerned, as they claimed they were, then protection, exploitation and enhancement would follow.

Further work is indicated with companies who are not as successful as the companies which participated in the case studies.

The findings of the case study stage of the empirical work broadly support the findings of the national survey in establishing the fact that intangibles make a significant contribution to business success. The findings also con-

firm, by means of a different approach, those intangibles which are the main contributors to business success.

The structure of the analysis technique used in the case studies came about by combining the notion of a coherent group of intangible resources, with the concept of capability differentials. The aim of using the technique in the case studies was to demonstrate that it is possible to analyse the sources of competitive advantage using a framework of intangible resources associated with capability differentials; and that this approach may provide evidence that the management of intangible resources could constitute a new subject area in business studies, and a new analysis technique for strategic management. The assessments of the managers who took part in the case studies suggest that this aim was realised.

### PART III CONCLUSIONS AND IMPLICATIONS

#### CHAPTER 10 OVERALL DISCUSSION OF THE RESULTS AND HOW THEY SUPPORT THE HYPOTHESES.

##### 10.1 INTRODUCTION

It is appropriate at this stage to review the scope and objectives of the national survey and the case studies, and to examine thereafter the degree to which the evidence supports the hypotheses.

The survey was designed to test the reaction of executives to the idea that there is a general category of intangible resources which is worthy of attention; specifically the surveys aimed to identify the perceptions of executives with respect to the relative contribution which the different intangible resources make to business success, and the degree to which they are held to contribute to the sustainability of success.

The case studies, by virtue of their open ended nature, were designed to identify areas of the subject which may have been missed in the surveys. In addition they aimed to test the degree to which it is possible to use a framework of capabilities and intangible resources to provide a new perspective for viewing the sources of competitive advantage, and the sustainability of that advantage.

The scope and objectives of the national postal survey, and the case studies, are examined in more detail in the following section.

## 10.2 THE SCOPE AND OBJECTIVES OF THE NATIONAL POSTAL SURVEY

The postal surveys comprised four main sections, each of which had different objectives. These are summarised below, together with a brief resume of the findings:

### *The Contributors to Business Success*

This section was concerned with the source of competitive advantage. Specifically, this section aimed to identify the relative contribution which intangible resources make to business success; to establish how those contributions relate to the contribution of a benchmark factor ("Specialist Physical Resources"); to identify the area of employee know-how which was held to be the single most important one and to explore in some detail the perceptions of the importance attached to the different categories of intellectual property.

The intangible resources which were identified as making the most important contribution to business success were the people dependent resources such as reputation and know-how.

Operations was held to be the single most important area of employee know-how for all sectors other than the "Manufacturing Consumer Products" and "Retailing" sectors which held sales and marketing to be the single most important area of employee know-how.

All categories of intellectual property were given a low assessment with respect to the contribution they make to business success. This is held to be surprising as a brand name, or a trading name, is often the embodiment of a company's reputation; and if it is possible to protect either of these names by registration as a trade mark then it is prudent to do so. If there is a reason to value

the brand name-then there is a clear need to register the mark.

#### *Replacement Periods*

This section was concerned with the defendability of competitive advantage. Reputation and know-how were assigned the longest replacement periods, suggesting that in addition to making a major contribution to advantage, they also may contribute to the sustainability of that advantage by virtue of the long time it would take a competitor, starting from scratch, to match. Whilst "Employee Know-how" was given third ranking in terms of the size of replacement period (after "Company Reputation" and "Product Reputation"), it was not as close to reputation as it was in the section concerned with the relative contribution to success; executives took the view that it would take significantly less time to recreate know-how than it would to recreate reputation.

#### *Lead, or Lag, Over Competition*

This section was concerned with establishing a correlation between the lead or lag, in years, over competition and sales performance. No correlation could be established. The estimates given for years lead over competitors were low, no one individual estimate exceeded 5 years, and the average for the resource assigned the longest lead (employee know-how) was 0.9 years.

#### *Distinctive Competence*

This section was concerned with cross checking the results of the first section. It was also concerned with testing a theory put forward by Itami (1987) that successful companies grow their "stocks" of intangible assets.

In addition to confirming the key intangible resources identified in the first section, this section identified the importance of the quality factor. As a result of this,

and because of the high ranking assigned to culture generally in the survey, the case studies examined the role of sub-sets of culture such as "Perception of Quality Standards"

A slight correlation was established between companies with above average growth, and increasing "stocks" of intangibles, but the nature of the linkage could not be established.

### 10.3 THE SCOPE AND OBJECTIVES OF THE CASE STUDIES

The analysis technique tested in the six case studies comprised five main sections, each of which had different objectives. These are summarised below, together with a brief resume of the findings:

#### *The Nature of Competitive Advantage*

This section was concerned with establishing the nature of competitive advantage by identifying a "recipe" of product attributes. Executives had little difficulty in apportioning percentage scores across a range of product attributes as a way of defining the nature of competitive advantage. Because the nature of the companies in question varied significantly the precise meanings of product attributes such as "aesthetics" or "availability" also varied; a crude summary of the six "recipes" resulted in "Product Availability" and "Quality" being identified as the two most important attributes.

#### *The Four Capabilities*

This section was concerned with establishing the role of: the regulatory capability, the positional capability, the functional capability and the cultural capability in producing a competitive advantage. In making this assessment two factors were considered: the importance of the

types of resources, e.g. patents; and the strength of the capability, e.g. the company's ability to pursue legal issues. The positional, functional and cultural capabilities were all ranked high by different executives. The regulatory capability was ranked low by all executives. This result echoes the low rating accorded contracts and intellectual property rights in the national survey. It would be interesting to examine whether the same perceptions hold in a more litigious business environment such as the U.S.A.

#### *The Key Intangible Resources*

The purpose of this section was to identify the relative importance of the intangible resources, and to compare them with the resources which were identified as key in the national survey. In summary the resources which were most commonly identified as key in the case studies were the same as those identified by the survey, but in addition "Perception of Quality Standards" and "Ability to Manage Change" were also often identified. These sub-sets of culture were not included in the factors offered for rating in the survey.

The attribute of "Image" and the intangible resource of "Reputation" were identified as being of a similar nature. These are held to be in the nature of feedback factors, i.e. capable of acting as both inputs and outputs to the commercial transformation process.

#### *The Sustainability of Competitive Advantage*

The purpose of this section was to define the nature of the sustainability of competitive advantage by examining the sustainability of the key product attributes, and the durability of the superiority of the key intangible resources.

The product attributes which were most often held to be



sustainable were: availability, quality and image. The intangible resource which was most often held to be sustainable was employee know-how (of all types). This echoes the results obtained in the survey for the question on "Lead (years) over competition", where "Employee Know-how" was accorded, on average, the longest lead.

#### *The Management of Key Intangible Resources*

The purpose of this section was to use the results of the analysis in order to focus on the resources which should receive management attention in terms of protection, leverage and enhancement. The results of this section were not as productive as the others in so far as the participating executives held that the identification of the resources, in itself, was the key to their effective management.

The case studies did serve to identify factors which had been omitted from the surveys. In particular the capability framework resulted in, for example, aspects of the positional capability such as "Configuration of the Value Chain" being identified, which possibly may not have been identified otherwise.

The degree to which these results support the hypotheses is examined in the following section.

#### 10.4 THE HYPOTHESES TO BE TESTED

The hypotheses to be tested were set out in Chapter 4. Those which were addressed primarily by the survey are separated from those which were addressed primarily by the case studies.

The hypotheses addressed primarily by the survey are listed below together with the supporting evidence which has been identified:

#### 10.4.1 The Source(s) of Business Success

That intangible resources make a significant, often the most significant, contribution to business success.

The "People Dependent" resources of "Company Reputation", "Product Reputation", "Employee Know-how" and "Culture" were assessed as making a more important contribution to business success than the benchmark factor of "Specialist Physical Resources". The statistical significance of this result was established by means of the "Sign Test" at a 95% confidence level.

#### 10.4.2 The Role of "Reputation"

That in view of the high valuations put on brand names in recent years "Reputation" is one of the most important resources a business can possess.

The two resources of "Company Reputation" and "Product Reputation" consistently scored the highest rating, with 83% of all respondents assigning a score of "8" or more on a scale of "Insignificant 1; Crucial 10".

#### 10.4.3 The Role of Employee Know-how

That because distinctive competence is often cited as a source of competitive advantage, employee know-how is a major contributor to business success.

Employee Know-how" was consistently rated the third most important intangible resource, with 73% of all respondents assigning a score of "8" or more on a scale of "Insignificant 1; Crucial 10".

#### 10.4.4 The Role of Intellectual Property Rights

That in view of the time and expense often associated with defending intellectual property rights, resources such as patents are not rated highly in terms of the

contribution-they make to business success.

The importance of the contribution which intellectual property rights make to business success was consistently scored low, below "Contracts" and above "Trade Secrets" (which was bottom of the ratings). It was not possible to determine whether this was due to ignorance of the law, or disaffection with the legal process.

#### 10.4.5 The Importance of the "Operations" Function

That in view of the fact that the essence of most businesses is to be found in the operations function, encompassing as it does the bulk of the value adding activities, it is perceived as one of the most important areas of employee know-how.

"Operations" was identified as the single most important area of employee know-how. The statistical significance of this result was established by means of the Chi <sup>2</sup> test at a 95% confidence level. This result is sensitive to the composition of the respondent sample because the respondents from companies in the "Manufacturing Consumer Products" and "Retailing" sectors accorded "Sales and Marketing" as the single most important area of employee know-how, although statistical significance could not be established for this result. It can be concluded that, for companies in sectors *other than* "Manufacturing Consumer Products" and "Retailing", operations is the single most important area of employee know how.

#### 10.4.6 The Contribution of "Reputation" to the Sustainability of Advantage

That, due to the long time necessary to establish the esteem component of "Reputation" it is the intangible resource with one of the longest replacement periods.

The overall average replacement periods associated with "Company Reputation" and "Product Reputation" were 10.8

years and 6.0~years respectively. By comparison "Employee Know-how" was estimated to have an average replacement period of 4.0 years. All three resources may therefore be held to contribute not only to competitive advantage, but also to the sustainability of that advantage, by virtue of the long time it would take a new entrant, starting from scratch, to match the capability. If the competition is coming from companies already established then this finding is of less relevance. The responses to the question regarding replacement periods were highly variable; and little significance is attached to the results of this question.

#### 10.4.7 Successful Companies will Accumulate Intangible Resources

Itami and Roehl (1987) reason that in addition to being positive with respect to conventional assets (i.e. profitable), successful companies pursue strategies which enhance their "stock" of intangibles such as reputation, employee know-how etc.

A weak correlation (70% probability level) was established between: "Above average sales growth", and a "... perception of a growth in the quality and quantity of the intangible resource held to be the single most important resource with respect to distinctive competence." In view of the low confidence level, and the inability to establish a cause and effect relationship, it is not possible to support this hypothesis.

The hypotheses addressed primarily by the case studies are:

#### 10.4.8 A Framework of Intangible Resources

That for the purposes of strategy review and formulation intangible resources may be arranged in a logical framework which enables them to be treated as a coherent subject.

The linking of intangible assets with the regulatory and positional capabilities, and the linking of competencies with the functional and cultural capabilities, provided a framework which the six executives who participated in the case studies could readily grasp. On the basis of their reactions this framework did facilitate the treatment of intangibles as a coherent subject.

#### 10.4.9 A Technique for Analysing Intangible Resources

That an analysis technique can be devised which will identify the contribution of intangible resources to business success.

The capability framework produced analyses which identified the role of intangible assets, as well as competencies. The companies which dealt directly with the public, and who in consequence were very concerned with distribution, rated the positional capability highly; (the positional capability is the product of previous endeavour, such as an established distribution network). Their strategies had an aspect of "... what we have we hold..." about them. The manufacturers of consumer products were more concerned with employee skills and attitudes, and the ability of the organisation to constantly change for the better.

With respect to the detailed design of the analysis the executives found the discipline of assigning percentage contribution figures (which had to total 100%) both intriguing and frustrating. This feature applied to the "recipes" of: competitive advantage, the roles of the capabilities, and the role of the intangible resources within each capability. The final analysis was sometimes the result of repeating the process more than once. This type of iterative analysis is not unusual.

#### 10.4.10 The Ability to Define Competitive Advantage

That "recipes" of product attributes which constitute competitive advantage can be defined, and that they will vary from company to company depending on the nature of the customer needs being addressed.

The participating executives had little difficulty with the idea of defining competitive advantage in terms of percentage importance scores for each of the relevant product attributes.

The view that competitive advantage varies from customer to customer was confirmed by the participating C.E.O.'s. The different "recipes" are presented in Table 10.1.

	The % Contributions to Competitive Advantage					
	Motor Manufr. %	Packaged Food %	Outdoor Clothing %	Bakery %	Transport %	Food Retlr. %
Quality/Functionality	20	30	40	25	5	20
Availability/ Outlet locatn.	15	10	10	25	90	40
Image	10	15	30	10		20
Price	20	10		20	5	15
Aesthetics	15	25	10			
Innovation	5	10				
Customer Serv. /A.Sales Serv.	15		10	20		5
	---	---	---	---	---	---
Total	100	100	100	100	100	100

Table 10.1 Summary of the "Recipes" of Competitive Advantage

#### 10.4.11 The Roles of Capability Differentials

That the roles of the four capability differentials which produce competitive advantage can be defined, and that they will vary from company to company depending on the nature of the key product attributes which constitute the competitive advantage.

This analysis was not as straightforward as the foregoing because two aspects were being assessed for each capability: importance (with respect to the nature of the resources, e.g. patents) and strength (e.g. an ability to pursue legal issues). The relative importance of these two factors was not defined, but was left to the judgement of each executive. Nevertheless little difficulty was encountered in making the assessments. The roles of the capabilities varied from company to company. The variation is illustrated in Table 10.2.

<u>Capability</u>	The % Contributions to Competitive Advantage					
	Motor Industry %	Packaged Food %	Outdoor Clothing %	Bakery %	Transport %	Food Retailer %
Regulatory	10	5	10	10	nil	10
Positional	20	10	40	30	35	35
Functional	30	25	25	30	65	30
Cultural	40	60	25	30	nil	25
	---	---	---	---	---	---
Total	100	100	100	100	100	100

Table 10.2. The Contributions which Capabilities make to Competitive Advantage.

Each of the positional, regulatory, and cultural capabilities were rated as the most important by at least two of the six executives. All executives rated the regulatory capability as the least important.

#### 10.4.12 A New Perspective for Material Already Known

That the new analysis technique will enable executives to take a new perspective with respect to material already known.

This view was confirmed by five of the six participating executives. The executive who did not confirm the view made the comment "Not convinced such an analysis is worth making"

#### 10.4.13 A Useful Aid to Communications

That the framework of intangible resources, which is the outcome of the new analysis technique, will provide executives with a useful aid to communications.

This view was confirmed by four of the six participating executives. One of the executives who did not confirm the view was the executive who made the comment "Not convinced such an analysis is worth making"; the other executive who did not confirm the view made no specific comment regarding communications; he did make the general comment "The new perspective did not add any new dimension to the business strategy. It was interesting and enjoyable"

The assessment documents received from the executives are shown in Appendix III.

In addition to the positive comments regarding the analysis technique received from the majority of the case study executives, further support for the value of the technique was received from the executives in the company which requested the management development exercise.



## 10.5 CONCLUSION TO CHAPTER 10

The framework of intangible resources which separates assets from competencies; linking the former to the regulatory and positional capabilities, and the latter to the functional and cultural capabilities; does appear to provide a new perspective, particularly with respect to the attention it directs to the intangible resources classed as assets such as reputation, distribution networks, etc.

It may be that there are better processes for arriving at the structure of product attributes, capabilities, and intangible resources. The claim made in this study for the approach is more to do with the coherent structure which can be fashioned, than it is with this particular way of achieving it.

A theme running through the empirical work has been the growing awareness of the importance attached to culture. It may be that the respondents were reflecting current fashion in management literature in this regard; it is held to be more likely that management literature is reflecting the perceptions of practising managers.

It is a little disappointing that more benefit was not obtained for the case study executives in terms of identifying a new focus for the management of intangibles in terms of protection, leverage and enhancement. C.E.O.'s of demonstrably successful companies clearly believe that the current management practice and style is correct. However this study was not concerned with the management of intangibles, it was concerned with the analysis of the contribution which intangibles make to business success. Further work is indicated into the management of intangibles. In this respect it would clearly be advisable to work with some companies which are not successful.

The major claim made for this study is that it provides good evidence that the strategic role of intangible resources is a subject which it would be productive to research further because it would probably provide benefits in terms of both management education, and management practice.

## CHAPTER 11 CONCLUSIONS

### 11.1 INTRODUCTION

The purpose of this Chapter is to discuss the findings in relation to the literature review, to discuss the implications for management practice, to discuss the strengths and weaknesses of the study, and to identify the indications for further work.

The purpose of the literature review was defined as being:

- To review the degree to which the role of intangible resources in business success is treated as a coherent subject in the literature.
- Review the development of the literature on strategic management, and in doing so to chart its progress from "mechanism" to "humanism" - from a concentration on people independent resources to people dependent resources.
- To review the strategic analysis techniques which are practised and taught in order to check to what extent the analysis techniques are congruent with current thinking regarding the nature and characteristics of strategic management.
- To explore the literature regarding the nature of *sustainable competitive advantage*

These issues are discussed in relation to the findings of the empirical work in the section which follows.

## 11.2 THE FINDINGS IN RELATION TO THE LITERATURE REVIEW

The literature review identified the fact that few authors, with the exception of Coyne (1986), Itami and Roehl (1987), Johnson and Kaplan (1987), and Aaker (1989) have addressed the question of the contribution which intangible resources make to business success. No author was identified who had put forward a framework which enabled intangible resources to be treated as a coherent subject capable of analysis as such. It is held that this study, by virtue of the response elicited from executives, establishes that such an approach is productive, and that the framework, and analysis technique here devised constitute a first step towards meeting this need.

The literature on strategic management developed from treating the subject in a "mechanistic" fashion, to treating it in a more "humanistic" fashion. This development is in accord with the assessments of the executives who participated in the empirical work. The results of the empirical work clearly demonstrate that it is the "People Dependent" intangible resources which are assessed as making a more important contribution to business success than do the "People Independent" resources. Indeed it was surprising that the distinction was so clear cut. Whilst the intangible resources of contracts and intellectual property rights can be a major source of business success for some companies, the majority of respondents did not rate them highly.

It may be argued that the recognised importance of reputation and employee know-how will result, in time, in more interest in the protection which can be afforded by intel-

lectual property rights and trade secrets.

In view of the importance attached to the "People Dependent" resources it may also be argued that the impact of the discipline of organisational behaviour has not been as great as it should be. For example the new initiatives in operations, such as total quality management, and just in time, (which are promulgated as being more in the nature of philosophies, rather than techniques), can be described in organisational behaviour terms as representing an internal motivation style of management, as opposed to one of external control; each of these style has advantages and disadvantages clearly defined by the organisational behaviour literature.

The importance attached to culture would also suggest that the discipline of organisational behaviour could contribute to this aspect of management; especially when culture change is an issue. Many consultants have been occupied in the 1980's offering culture change programmes with the aim of achieving total quality management. Some of these initiatives have either failed, or have succeeded initially, and then stalled due to the recession of the early 1990's when the financial climate has caused the organisation to revert to type. Whilst lasting culture change is no doubt possible, it is more likely to be achieved by organisational behaviour experts than by quality management consultants.

Notwithstanding these comments it is clear that the belief that an organisation's strategy in use, (as opposed to its espoused strategy), may be synonymous with its culture, is sound. It is the shared habits, attitudes and values which are held by the members of an organisation which can

determine the manner in which the resources of the organisation are allocated. It follows that managers must be concerned with the nature of their organisation's culture and the degree to which it is in harmony with the espoused objectives and strategy. Some of the executives who participated in the case studies understood this very clearly and were at pains to achieve this congruence by means of ownership. This in turn leads to the view that strategy must not be the concern only of specialists, but that so far as it is possible to do so it should be the concern of all those who will be responsible for its implementation.

With respect to the analysis techniques which can assist in the strategic management process the literature examined does not offer any techniques which address the issue of intangibles in the way that the technique devised in this study attempts to do. If the role of intangibles is as important as the survey and the case studies suggest it is, then there is a need for such a technique.

In so far as sustainable competitive advantage is the major, possibly the sole, outcome of the strategic management process; then an understanding of its nature, and origins is a crucial aspect of strategic management theory.

The empirical work carried out in this study was more successful in identifying the nature, and the sources, of competitive advantage than it was in identifying the sustainability of the advantage. There was relatively little difficulty in identifying the product attributes which constituted competitive advantage in the eyes of the customers; there was more difficulty in identifying the origins of the sustainability of that advantage.' Coyne

(1986) identifies two aspects to the question of sustainability. One is concerned with the sustainability of the product attributes, the other is concerned with the sustainability of the capabilities, and their feed stock intangibles, which produce the advantage. For example if the advantage resides in the functionality of an instant camera, the sustainability of that advantage will reside in the strength of the relevant patent, the term the patent has left to run, and the ability of the company to prosecute third parties who trespass on the property of the patent.

When examining issues such as: the replacement time associated with the different intangible resources, the sustainability of product attributes, the sustainability of the superiority enjoyed by key intangible resources; the nature and source of the sustainability of advantage was not as easy to define as was the nature of the advantage itself.

### 11.3 THE IMPLICATIONS FOR MANAGEMENT PRACTICE

The identification of the intangible resources which are the most important for business success has certain implications for management practice. These are examined in the sections which follow.

#### *Reputation*

The importance of reputation, whether or not it is embodied in a trademark, suggests that it should receive constant management attention. Reputation, which is usually the product of years of demonstrated superior competence, is a fragile resource; it takes time to create, it cannot be bought, and it can be damaged easily. The empha-

sis placed on this resource by C.E.O.'s suggests that a key task of management is to make sure that every employee is disposed to be both a promoter and a custodian of the reputation of the organisation which employs him.

#### *Employee Know-how*

Employee know-how was rated as one of the most important contributors to business success, it was also rated as one of the most durable resources. This emphasis on employee know-how is in tune with the writing of Prahalad and Hamel (1990) on core competencies. They suggest that strategic thinking has been over concerned with taking a market perspective, and too little concerned with taking a core competence perspective. If employee know-how is a major source of competitive advantage there is a clear requirement for the continuous enhancement of the quantity and quality of the "stock" of know-how. This may be by training, and it may be by "learning by doing". The modern tendency to sub-contract more and more activity does have the consequence of shrinking the area of competence to a smaller and smaller base.

It is possible that the "mobility" of employees in the West means that the resource of employee know-how is, generally speaking, not as durable as the managers who participated in the case studies believed it to be. It may be that in the future companies will attempt to increase the durability of this resource by changing conditions of service, invoking the legislation regarding trade secrets etc.

#### *Culture*

Culture was ranked as the fourth most important intangible resource by the survey. The case studies identified more



aspects of culture as contributing to success than did the surveys, these were :

- Ability to manage change
- Ability to innovate
- Team working ability
- Participative management style
- Perception of high quality standards
- Perception of high standards of customer service

To a degree culture is a function of the type of activity which the organisation is engaged in, to a degree it is a function of the life cycle stage which the organisation has reached; but increasingly it is being recognised that an organisation's culture is produced, consciously or unconsciously, by senior managements' actions, and in particular the actions of the chief executive.

#### *Networks*

Organisational networks are essentially concerned with human relations which transcend the requirements of organisational structure, commercial relationships etc. In discussing the "make or buy" question with the personnel director of the motor manufacturing company in the case study stage , he maintained that it made little difference whether they made in house or bought in as they treated suppliers as an extension of their factory. Whilst this international company was very powerful, there was clearly a high degree of networking between its employees, and its suppliers' employees.

#### *The Most Important Area of Employee Know-how*

The analysis of the most important area of employee know-how was significant. Operations was ranked as the single

most important area of employee know-how by the majority of C.E.O.s in :

- Manufacturing Industrial Products
- Transport
- Services
- Diversified

whereas sales and marketing was ranked as the single most important area of employee know-how by the majority of C.E.O.'s in :

- Manufacturing Consumer Products
- Retailing

The emphasis given to the preeminence of the operations function by Japanese companies over Western companies has been a theme of management literature in the 1980's, and the recognition of its importance is widespread. It may be argued that the importance assigned to operations by so many C.E.O.'s suggests that the subject should be given greater emphasis in academic teaching and research.

#### *Databases*

The top ranked "People Independent" intangible resource was "Databases", and this was assessed as having grown in importance in the last three years. This is clearly highlighting the growing impact of information technology on business affairs.

If, as is claimed in this study, the management of intangible resources constitutes a coherent subject area, then the question of organisational responsibility arises. Should there be a "Manager of Intangible Resources"? Only

one person in an organisation can carry the responsibility for all intangibles, ranging from patents to company reputation, and that is the C.E.O. This study suggests that C.E.O.s may benefit from periodically carrying out audits of intangible resources with their senior management team. The purposes served by doing this are :

- To identify changes which have occurred.
- To ascertain the congruency, or otherwise, of the different managers' perceptions.
- To identify the changes which will occur if different strategies are pursued.

The methodical approach to analysing the sources of a company's competitive advantage afforded by the analysis technique makes it suitable for case study teaching purposes, and has been used by the author in this way on undergraduate and post graduate courses.

#### 11.4 THE STRENGTHS AND WEAKNESSES OF THE STUDY AND FURTHER WORK WHICH IS INDICATED

The strength of the study is believed to be :

- Its originality
- The large number of postal survey respondents.
- The seniority of the executives participating in the case studies.

The study has weaknesses. The most significant weakness is in the choice of factors which were presented to the respondents. The weightings and rankings which the study produced would have been different if different factors had been presented. With the knowledge of hindsight the

postal surveys should have had more aspects of culture included in the list of factors, and more benchmark factors such as: "financial strength", "current profitability" and "current rate of growth".

The case study interviews, notwithstanding the fact that they were structured, allowed the participating manager to devise his own list of factors. The factors which were introduced by executives were :

Aspects of culture (listed elsewhere)	(Cultural differential)
Existing distribution strategy	(Positional differential)
Financial strength	" "
Industrial relations	" "
Siting of outlets	" "

The aspects of culture have been examined earlier. The "Existing distribution strategy" concerned the bakery which retailed everything that it made ; a key feature of its strategy was its policy of resolutely refusing to manufacture for other retailers . The "Financial Strength" and "Industrial Relations" factors concerned the 'bus company which had a strong positional differential (the bus routes) which it could hold on to as long as it did not "crack" due to financial, or industrial relations, problems. The "Siting of Outlets" factor concerned the supermarket chain which held that the siting of its outlets was the key to success.

Further work using the analysis technique is required in conjunction with companies in a variety of sectors, and of smaller sizes. In particular work with unsuccessful companies is indicated to see whether the

technique can diagnose what is wrong, and prescribe corrective action; particularly with respect to the appropriate organisation for, and management of, the key intangibles.

In order to further explore the degree to which the analysis technique may be used as a new basis for communication further work is indicated which would investigate the perceptions of the different stakeholder groups in a company. This would, in the first instance, establish the degree of goal congruence which exists between the stakeholders, and thereafter establish the degree to which the framework of intangible resources can be used as a basis for productive discussion.

Further work in the form of critical incidence studies would also be worthwhile. It would, for example, be interesting to see how an analysis of the intangible resource capabilities enjoyed by Jaguar at the time of the purchase of that company by Ford, supported, or otherwise, Ford's acquisition decision.

APPENDIX I

Section I a Pilot survey questionnaire.

Sample of letter seeking co-operation

UNIVERSITY OF  
NEWCASTLE UPON TYNE

Management Division  
Department of Accounting and Management  
University of Newcastle upon Tyne  
Newcastle upon Tyne NE1 7RU  
Tel : 091-222-6188  
Fax : 091-222-8131



For the attention of the Chief Executive.

*Dear Mr. Smith,*

5/3/90

On February 13th at a conference organised by the "*The Economist*", Tom Peters, the prominent American management guru, suggested that information was the only asset a company need own.

Mr. Peters was obviously being provocative, but he is not alone in believing that information, or more generally intellectual resources, will become the ultimate asset for many companies.

Intellectual resources include :

Reputation      Know-How      Networks      Intellectual Property

Licence Agreements      Trade Secrets      Public Knowledge

As yet there is little known about how one manages these resources, particularly in the context of strategic planning. The purpose of this letter, and the accompanying questionnaire, is hopefully to begin to rectify this omission.

In order to gather some basic data on intellectual resources, I am surveying the top firms in the North East. I am hoping that you will take part in the research by completing the enclosed questionnaire.

Any information you supply will be treated in total confidence, and only released in the form of aggregate summary statistics. Please complete the questionnaire on an anonymous basis. If you would like to receive a summary of the findings please send a business card, or compliment slip under separate cover.

Thank you in anticipation of your co-operation.

Yours sincerely,

*Richard Hall*

Richard Hall.  
Lecturer in Operations Management & Business Policy





(A) CONTRIBUTION TO THE SUCCESS OF THE BUSINESS.

Against each factor listed below please give an importance score with respect to the contribution which each factor made, and is making, to the overall success of your business. Please do this for 1987 as, to the best of your knowledge, you believe it to have been; and also as you currently see it for 1990.

Please score :

Insignificant 1 ; Slight 2 ; Moderate 3 ; Important 4 ; Crucial 5.

1987

1990

1 Reputation

1.1 What contribution did/does the Reputation of your Company e.g. with distributors, customers etc., make to the overall success of your business ?

( )

( )

1.2 What contribution did/does the Reputation of your Company's Products e.g. with customers and users etc., make to the overall success of your business ?

( )

( )

2 Know-How

2.1 What contribution did/does the Know-How of your Employees e.g. with respect to R. & D., production, sales etc., make to the overall success of your business ?

( )

( )

2.2 What contribution did/does the Know-How of your Suppliers e.g. with respect to your specialist requirements make to the overall success of your business ?

( )

( )

2.3 What contribution did/does the Know-How of your Distributors e.g. with respect to after sales service etc. make to the overall success of your business?

( )

( )

SECTION (A) CONTD.

Against each factor listed- below please give an importance score with respect to the contribution which each factor makes to the overall success of the business. Please do this for 1987 as, to the best of your knowledge, you believe it to have been; and also as you currently see it for 1990.

Please score :

Insignificant 1; Slight 2; Moderate 3; Important 4; Crucial 5.

**1987**

**1990**

3 What contribution did/do the Networks between your company's employees and say suppliers, customers etc. make to the overall success of your business?

( )

( )

4 What contribution did/does Public Knowledge e.g. the latest advances in technology, or Government statistics etc. make to the overall success of your business ? (The importance weighting with respect to public knowledge relates to the usefulness of the relevant categories of public knowledge to the business.)

( )

( )

5 What contribution did/does Trade Secrets (protected by confidentiality agreements) make to the overall success of your business?

( )

( )

6 What contribution did/do Contracts e.g. with licensors, distributors etc. make to the overall success of your business ?

( )

( )

7 What contribution did/does Intellectual Property e.g. Patents, trademarks etc. make to the overall success of your business ?

( )

( )

8 What contribution did/do Specialist Physical Resources e.g. specialist plant & equipment, or specialist materials, make to the overall success of your business ?

( )

( )

(B) REPLACEMENT PERIOD.

Given a reasonably high priority, how many years would it take your organisation to recreate the current capability / competence of each of the resources shown below if you had to start from scratch.

No. of Years
-----------------

1 Reputation

1.1 How many years would it take to re-create the current Reputation of your Company e.g. with distributors, or customers ?

( )

1.2 How many years would it take to re-create the current Reputation of your Product Range e.g. with customers or users ?

( )

2 Know-How

2.1 How many years would it take to re-create the current Know-How of your Company's Employees e.g. with respect to R.& D., production, sales etc. ?

( )

2.2 How many years would it take to re-create the current Know-How of your Suppliers e.g. with respect to your specialist requirements etc.?

( )

2.3 How many years would it take to re-create the current Know-How of your Distributors (if appropriate) e.g. with respect to after sales service etc.?

( )

3 How many years would it take to re-create the current Networks e.g. between your company's employees and suppliers, customers etc.?

( )

### (C) LEAD or LAG OVER COMPETITION

If it is possible to do so, please estimate the number of years you are currently ahead, or behind, your main competitors with respect to each of the resources listed below, ( + x Yrs. if ahead, - x yrs. if behind ).

No. of Years
-----------------

#### 1 Know-How

1.1 How many years are you currently ahead/behind your main competitors with respect to the Key Know-How of Employees e.g. in the key operational areas ?

(  )

1.2 How many years are you currently ahead/ behind your main competitors with respect to the Key Know-How of Suppliers e.g. regarding specialist requirements etc.?

(  )

1.3 How many years are you currently ahead/behind your main competitors with respect to the Key Know-How of your Distributors (where appropriate) e.g. with respect to after sales service etc.?

(  )

2 How many years are you currently ahead/behind your main competitors with respect to the Networks established between your employees and say suppliers, customers etc. ?

(  )

### (D) ACCUMULATION OF INTELLECTUAL RESOURCES

The factors which have been the subject of this questionnaire, i.e. Reputation, Know-how, Networks, Trade Secrets, Contracts and Intellectual Property have been described as "Intellectual Resources". If it is possible to think in terms of the "stock" of Intellectual Resources which your company owns, can you estimate the movement in the level of this "stock" in your company in the last three years :

Significant Growth (  )

Growth (  )

No Change (  )

Decline (  )

Significant Decline (  )

SECTION (D) CONTINUED      ~~~

If there has been a significant movement in the "stock" of Intellectual Resources I would be very grateful if you would comment as to which area was involved, and what occasioned the change.

(E) GENERAL

Any comments            on the questionnaire as a whole, would be much appreciated.

This concludes the questionnaire. Thank you very much for your co-operation.

*Richard Hall*

Richard Hall.  
Lecturer in Operations Management & Business Policy.

## APPENDIX I

Section I b Pilot survey statistical calculations.

## APPENDIX I Pilot Survey

### SIGN TEST CALCULATIONS

"Company Reputation " and "Specialist Physical Resources"

Number of + signs	14
Number of - signs	1
	----
Total Sample	15

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 15

The proportion of + signs 14/15 = 0.93

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{15}} = 0.129$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.129 = 0.753$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX I Pilot Survey

### SIGN TEST CALCULATIONS

"Product Reputation " and "Specialist Physical Resources"

Number of + signs	16
Number of - signs	1
	----
Total Sample	17

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 17

The proportion of + signs  $16/17 = 0.94$

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{17}} = 0.121$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.121 = 0.74$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%



## APPENDIX I Pilot Survey

### SIGN TEST CALCULATIONS

"Employee Know-how " and "Specialist Physical Resources"

Number of + signs	15
Number of - signs	3
	----
Total Sample	18

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q)

= 0.5

Sample size: n = 18

The proportion of + signs                      15/18      =   0.83

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{18}} = 0.118$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.118 = 0.73$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX I Pilot Survey

### SIGN TEST CALCULATIONS

"Networks " and "Specialist Physical Resources"

Number of + signs	12
Number of - signs	9
	----
Total Sample	21

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 21

The proportion of + signs            12/21    = 0.57

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{21}} = 0.109$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.109 = 0.714$$

The proportion of + signs is not greater than this, therefore there is not a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

APPENDIX II

Section II a National survey questionnaire.

APPENDIX II  
(National Survey)

Sample letter seeking co-operation.

UNIVERSITY OF  
NEWCASTLE UPON TYNE



For the attention of the Chief Executive

Management Division  
Department of Accounting  
and Management  
Armstrong Building  
The University  
Newcastle upon Tyne NE1 7RU

15 June 1990

*Dear Mr. Smith,*

In February of this year at a conference organised by the "*The Economist*", Tom Peters, the prominent American management guru, suggested that information was the only asset a company need own.

Mr. Peters was obviously being provocative, but he is not alone in believing that information, or more generally intellectual resources, will become the ultimate asset for many companies.

Intellectual resources include :

Reputation	Know-How	Networks	Intellectual Property
Licence Agreements		Trade Secrets	Public Knowledge
Databases	Culture	Trading Styles & Brandnames	

As yet there is little known about how one manages these resources, particularly in the context of strategic planning. The purpose of this letter, and the accompanying questionnaire, is hopefully to begin to rectify this omission.

In order to gather some basic data on intellectual resources, I am surveying major firms in the U.K. I am hoping that you will take part in the research by completing the enclosed questionnaire.

If you wish to do so please complete the questionnaire on an anonymous basis. If you would like to receive a summary of the findings please send a business card, or compliment slip, under separate cover.

Thank you in anticipation of your co-operation.

Yours sincerely,

*Richard Hall*

Richard Hall.  
Lecturer in Operations Management & Business Policy



QUESTIONNAIRE REGARDING INTELLECTUAL RESOURCES

SECTION A

NATURE OF BUSINESS :

Management Division

In this questionnaire the expressions "Company", and "Business" refer to the organisation for which you are responsible.

1. Sector

- Manufacturing Consumer Products ☐
- Manufacturing Industrial Products ☐
- Retailing ☐
- Other Trading ☐
- Transport (goods or people) ☐
- Services (e.g. banking, consultancy) ☐
- Public Services (e.g. hospitals) ☐

If your organisation is involved in more than one of the above categories, please tick all of the relevant categories, but complete the rest of the questionnaire for the main category only, (please indicate which is the main category with a double tick).

2. Status

Independent ☐      Subsidiary ☐      State Owned ☐

If subsidiary, is the ultimate parent :

British ☐      American ☐      Japanese ☐

European ☐      Other ☐

Is licensing (in or out) a sufficiently important feature of your operations for you to describe your organisation as a :

Licensor ☐      Licensee ☐      Neither ☐

3. Size of Organisation

1987 Sales £..... Employees .....

1990 Sales £..... Employees .....

## SECTION (B)

### CONTRIBUTORS TO THE SUCCESS OF THE BUSINESS.

Against each factor listed below please give an importance score (between 1 & 10) with respect to the contribution which each factor made, and is making, to the overall success of your business. Please do this for 1987 as, to the best of your knowledge, you believe it to have been; and also as you currently see it for 1990.

Please score between "1" and "10", on the following basis :

Insignificant "1" ;                      Moderate "5" ;                      Crucial "10".

1987

1990

#### 1 Reputation

1.1 What contribution did/does the Reputation of your Company e.g. with distributors, customers etc., make to the overall success of your business ?

(    )

(    )

1.2 What contribution did/does the Reputation of your Company's Products e.g. with customers and users etc., make to the overall success of your business ?

(    )

(    )

#### 2 Know-How

2.1 What contribution did/does the Know-How of your Employees e.g. with respect to R. & D., production, sales etc., make to the overall success of your business ?

(    )

(    )

Which is the single most important area this know-how relates to :

Operations (    ) Sales/Marketing (    ) Finance (    ) Technology (    ) Other (    )

2.2 What contribution did/does the Know-How of your Suppliers e.g. with respect to your specialist requirements, make to the overall success of your business ?

(    )

(    )

2.3 What contribution did/does the Know-How of your Distributors e.g. with respect to after sales service etc., make to the overall success of your business?

(    )

(    )

3 What contribution did/does the Culture of your Organisation, e.g. the attitudes to change, threats etc., make to the overall success of your business ?

(    )

(    )

SECTION (B) CONTD. Against each factor listed below please give an importance score ( between 1 & 10) with respect to the contribution which each factor makes to the overall success of the business. Please do this for 1987 as, to the best of your knowledge, you believe it to have been; and also as you currently see it for 1990.

Please score between "1" and "10", on the following basis:

Insignificant "1" ;

Moderate "5" ;

Crucial "10".

1987

1990

4 What contribution did/do the Networks between your company's employees and say suppliers, customers etc., make to the overall success of your business?

( )

( )

5 What contribution did/does Public Knowledge e.g. the latest advances in technology, or economic projections, etc., make to the overall success of your business ? (The importance weighting with respect to public knowledge relates to the usefulness of the relevant categories of public knowledge to the business.)

( )

( )

6 What contribution did/do Trade Secrets (which are protected by by the laws of confidentiality or contract), make to the overall success of your business?

( )

( )

7 What contribution did/do Commercial Contracts e.g. with licensors, distributors etc., make to the overall success of your business ?

( )

( )

8 What contribution did/do Specialist Physical Resources e.g. specialist plant & equipment, or specialist materials, or the sites of retail outlets, make to the overall success of your business ?

( )

( )

9 What contribution did/does Intellectual Property e.g Patents, trademarks etc. make to the overall success of your business ?

( )

( )

9a Please indicate the contribution which each of the following categories made/makes to the overall success of the business :

Patents

( )

( )

Registered Designs

( )

( )

Copyright

( )

( )

Registered Trademarks

( )

( )

Unregistered Brandnames

( )

( )

10 What contribution did/do Databases make to the overall success of your business ?

( )

( )

## SECTION (C)

### REPLACEMENT PERIOD.

Given a reasonably high priority, how many years would it take your organisation to recreate the current capability / competence of each of the resources shown below if you had to start from scratch.

No. of Years
-----------------

#### 1 Reputation

1.1 How many years would it take to re-create the current Reputation of your Company e.g. with distributors, or customers ?

(  )

1.2 How many years would it take to re-create the current Reputation of your Product Range e.g. with customers or users ?

(  )

#### 2 Know-How

2.1 How many years would it take to re-create the current Know-How of your Company's Employees e.g. with respect to R.& D., production, sales etc. ?

(  )

2.2 How many years would it take to re-create the current Know-How of your Suppliers e.g. with respect to your specialist requirements etc.?

(  )

2.3 How many years would it take to re-create the current Know-How of your Distributors (if appropriate) e.g. with respect to after sales service etc.?

(  )

3 How many years would it take to re-create the current Networks e.g. between your company's employees and suppliers, customers etc.?

(  )

4 How many years would it take you to re-create your current Databases

(  )



SECTION (D)

LEAD or LAG OVER COMPETITION

If it is possible to do so, please estimate the number of years you are currently ahead, or behind, your main competitors with respect to each of the resources listed below, ( + x Yrs. if ahead, - x yrs. if behind ).

No. of Years
-----------------

1.1 How many years are you currently ahead/behind your main competitors with respect to the Key Know-How of Employees e.g. in the key operational areas ?

(  )

1.2 How many years are you currently ahead/ behind your main competitors with respect to the Key Know-How of Suppliers e.g. regarding specialist requirements etc.?

(  )

1.3 How many years are you currently ahead/behind your main competitors with respect to the Key Know-How of your Distributors (where appropriate) e.g. with respect to after sales service etc.?

(  )

2 How many years are you currently ahead/behind your main competitors with respect to the Networks established between your employees and say suppliers, customers etc. ?

(  )

3 How many years are you currently ahead/behind your main competitors with respect to the Databases which you have developed.

(  )

## SECTION (E)

### DISTINCTIVE COMPETENCE AND INTELLECTUAL RESOURCES

The success of your operations may be measured in various ways, e.g. profitability, growth, financial strength etc. The sustained achievement of one, or more, of these measures of success will be due probably to a superior capability or a **distinctive competence**. If it is possible to do so please indicate which of the following categories has been the single most important resource with respect to your **distinctive competence**.

Databases ☐ Contracts ☐ Public Knowledge ☐  
Company Reputation ☐ Know How ☐ Networks ☐  
Int.Prop. Rights ☐ Product Range Reputation ☐ Co.Culture ☐  
Specialist Physical Resources ☐ Total Quality Capability ☐  
Not Applicable ☐

(Please tick one box only)

If it is possible to think in terms of the "quantity and quality" of the one key resource identified above, can you indicate how it has changed in the last three years :

Significant Enhancement	<input type="checkbox"/>
Enhancement	<input type="checkbox"/>
No Change	<input type="checkbox"/>
Decline	<input type="checkbox"/>
Not Applicable	<input type="checkbox"/>

## SECTION (F) GENERAL

Any comments on the questionnaire as a whole, would be much appreciated.

This concludes the questionnaire. Thank you very much for your co-operation.

*Richard Hall*

Richard Hall.

Lecturer in Business Policy & Operations Management.

## APPENDIX II

Section II b National survey statistical calculations.

## APPENDIX II National Survey

### SIGN TEST CALCULATIONS

"Company Reputation " and "Specialist Physical Resources"

Number of + signs	53
Number of - signs	12
	----
Total Sample	65

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 65

The proportion of + signs  $53/65 = 0.82$

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{65}} = 0.06$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.06 = 0.62$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX II National Survey

### SIGN TEST CALCULATIONS

"Product Reputation " and "Specialist Physical Resources"

Number of + signs	54
Number of - signs	14
	----
Total Sample	68

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 68

The proportion of + signs            54/68    = 0.79

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{68}} = 0.06$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.06 = 0.62$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX II National Survey

### SIGN TEST CALCULATIONS

"Employee Know-how " and "Specialist Physical Resources"

Number of + signs	53
Number of - signs	21
	----
Total Sample	74

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 74

The proportion of + signs  $53/74 = 0.72$

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{74}} = 0.06$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.06 = 0.62$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion). + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX II National Survey

### SIGN TEST CALCULATIONS

"Culture " and "Specialist Physical Resources"

Number of + signs	48
Number of - signs	20
	----
Total Sample	68

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 68

The proportion of + signs  $48/68 = 0.71$

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{68}} = 0.06$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 * x \quad 0.06 = 0.62$$

The proportion of + signs is greater than this, therefore there is a significant difference between the resources at a 95 % level of confidence.

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%

## APPENDIX II National Survey

### SIGN TEST CALCULATIONS

"Networks " and "Specialist Physical Resources"

Number of + signs	42
Number of - signs	30
	----
Total Sample	72

The null hypothesis is that there is no difference between the resources.

Therefore the hypothesised proportion of the population who feel both resources are the same (p) = 0.5

and the hypothesised proportion of the population who feel both resources are different (q) = 0.5

Sample size: n = 72

The proportion of + signs  $42/72 = 0.58$

The standard error of the proportion :

$$\sqrt{p q / n} = \sqrt{\frac{0.5 \times 0.5}{72}} = 0.06$$

If the signs were randomly distributed only 5 % of the population of proportions will lie outside :

$$0.5 + \text{or} - 1.96 \times 0.06 = 0.62$$

The proportion of + signs is not greater than this, therefore there is not a significant difference between the resources .

\* A normal distribution of the proportion of + signs is assumed and 95 % of the population will therefore lie within + or - 1.96 standard deviations. If the proportion of + signs is greater than 0.5 (the mean proportion) + 1.96 x std. devn. then the probability of this occurring by chance is less than 5%



## APPENDIX II

### Chi <sup>2</sup> Significance Test

#### THE DISTRIBUTION OF SERVICE SECTOR COMPANIES IN HIGH AND LOW SALES GROWTH GROUPS

	Sales Growth Group		Total
	Low	High	
Number of Companies "o"	6	15	21
e	10.5	10.5	21
o - e	4.5	4.5	
(o - e) <sup>2</sup>	1.9	1.9	
----- e			
Sum (o - e) <sup>2</sup> ----- e	= 3.86		

3.86 is greater than the value of Chi <sup>2</sup> (3.84) for one degree of freedom at 95 % confidence limit, therefore the number of service sector companies in the high sales growth sector is significant.

## APPENDIX II $\chi^2$ Significance Test

### THE DISTRIBUTION OF SERVICE SECTOR COMPANIES IN HIGH AND LOW SALES GROWTH GROUPS

	Sales Growth Group		Total
	Low	High	
Number of Companies (o)	6	15	21
Expected No. (e)	10.5	10.5	21
$o - e$	4.5	4.5	
$(o - e)^2$	1.9	1.9	
$\frac{(o - e)^2}{e}$			
Sum	$\frac{(o - e)^2}{e} = 3.86$		

3.86 is greater than the value of  $\chi^2$  (3.84) for one degree of freedom at 95 % confidence limit, therefore the number of service sector companies in the high sales growth sector is significant.

# APPENDIX II Chi<sup>2</sup> Significance Test

THE MOST IMPORTANT AREA OF EMPLOYEE KNOW - HOW

	Ops.	Sales & Mktg.	Technology	Other	Total
No. Quoting (o)	37	18	14	7	76
Expeted No. (e)	19	19	19	19	76
o - e	18	1	5	12	
$\frac{(o - e)^2}{e}$	17.1	0.05	1.3	7.6	
Sum	$= 26.05$				

This is greater than the value of Chi<sup>2</sup> (7.81) for 3 degrees of freedom at 95 % confidnce limits; therefore the number of executives quoting Operations as the single most important source of employee know-how is significant.

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high-and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	13	35
	e	24	7	35
	o - e	6	6	
	$\frac{(o - e)^2}{e}$	1.29	5.14	
H I G H  S A L E S	o	30	0	30
	e	24	6	30
	o - e	6	6	
	$\frac{(o - e)^2}{e}$	15	6	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 13.93$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	12	34
	e	27.2	6.8	34
	o - e	5.2	5.2	
	$\frac{(o - e)^2}{e}$	0.99	4.0	
H I G H  S A L E S	o	30	1	31
	e	24.8	6.2	31
	o - e	5.2	5.2	
	$\frac{(o - e)^2}{e}$	1.09	4.36	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 10.44$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	11	33
	e	26.4	6.6	33
	o - e	4.4	4.4	
	$\frac{(o - e)^2}{e}$	0.73	2.93	
H I G H  S A L E S	o	30	2	32
	e	25.6	6.4	32
	o - e	4.4	4.4	
	$\frac{(o - e)^2}{e}$	0.76	3.03	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 7.45$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
LOW SALES	o	22	10	32
	e	25.6	6.4	32
	o - e	3.6	3.6	
	$\frac{(o - e)^2}{e}$	0.51	2.03	
HIGH SALES	o	30	3	33
	e	26.4	6.6	33
	o - e	3.6	3.6	
	$\frac{(o - e)^2}{e}$	0.49	1.96	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 4.99$$

# APPENDIX II Chi<sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
LOW SALES	o	22	9	31
	e	24.8	6.2	31
	o - e	2.8	2.8	
	$\frac{(o - e)^2}{e}$	0.32	1.26	
HIGH SALES	o	30	4	
	e	27.2	6.8	
	o - e	2.8	2.8	
	$\frac{(o - e)^2}{e}$	0.29	1.15	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 3.02$$



APPENDIX II Chi<sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	8	30
	e	24	6	30
	o - e	2	2	
	$\frac{(o - e)^2}{e}$	0.17	0.67	
H I G H  S A L E S	o	30	5	35
	e	28	7	35
	o - e	2	2	
	$\frac{(o - e)^2}{e}$	0.14	0.57	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 1.55$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	7	29
	e	27.2	5.8	29
	o - e	1.2	1.2	
	$\frac{(o - e)^2}{e}$	0.06	0.25	
H I G H  S A L E S	o	30	6	36
	e	28.8	7.2	36
	o - e	1.2	1.2	
	$\frac{(o - e)^2}{e}$	0.05	0.2	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 0.56$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	6	28
	e	22.4	5.6	28
	o - e	0.4	0.4	
	$\frac{(o - e)^2}{e}$	0.007	0.03	
H I G H  S A L E S	o	30	7	37
	e	29.6	7.4	37
	o - e	0.4	0.4	
	$\frac{(o - e)^2}{e}$	0.005	0.02	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 0.062$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	5	27
	e	21.6	5.4	27
	o - e	0.4	0.4	
	$\frac{(o - e)^2}{e}$	0.007	0.03	
H I G H  S A L E S	o	30	8	38
	e	30.4	7.6	38
	o - e	0.4	0.4	
	$\frac{(o - e)^2}{e}$	0.005	0.02	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 0.062$$

# APPENDIX II $\chi^2$ Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	4	26
	e	20.8	5.2	26
	o - e	1.2	1.2	
	$\frac{(o - e)^2}{e}$	0.07	0.28	
H I G H  S A L E S	o	30	9	39
	e	31.2	7.8	39
	o - e	1.2	1.2	
	$\frac{(o - e)^2}{e}$	0.05	0.18	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 0.58$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	3	25
	e	20	5	25
	o - e	2	2	
	$\frac{(o - e)^2}{e}$	0.2	0.8	
H I G H  S A L E S	o	30	10	40
	e	32	8	40
	o - e	2	2	
	$\frac{(o - e)^2}{e}$	0.125	0.5	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 1.625$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
L O W  S A L E S	o	22	2	24
	e	19.2	4.8	24
	o - e	2.8	2.8	
	$\frac{(o - e)^2}{e}$	0.41	1.63	
H I G H  S A L E S	o	30	11	41
	e	32.8	8.2	41
	o - e	2.8	2.8	
	$\frac{(o - e)^2}{e}$	0.24	0.96	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 3.24$$

# APPENDIX II Chi <sup>2</sup> Significance Test

Companies in the high and low sales growth groups reporting  
"Growth in 'Stock' of Intangible Resources (I.R.)"

		Growth in I.R.	No Growth in I.R.	Total
LOW SALES	o	22	1	23
	e	18.4	4.6	23
	o - e	3.6	3.6	
	$\frac{(o - e)^2}{e}$	0.70	2.82	
HIGH SALES	o	30	12	42
	e	33.6	8.4	42
	o - e	3.6	3.6	
	$\frac{(o - e)^2}{e}$	0.39	1.54	
Total		52	13	65

$$\text{Sum } \frac{(o - e)^2}{e} = 5.45$$



## APPENDIX II

Section II c    Sample of unsolicited letter regarding  
the questionnaire.



# PILKINGTON

Mr. Richard Hall,  
Lecturer in Operations Management & Business Policy,  
Management Division,  
Department of Accounting and Management,  
Armstrong Building,  
The University,  
Newcastle upon Tyne. NE1 7RU

Your ref                      Our ref                      Date 17th July 1990                      Pilkington Glass Limited

Direct line 0744 692065

Prescot Road  
St Helens WA10 3TT  
England

Tel 0744 28882  
Fax 0744 613049  
Telex 627441

Dear Mr Hall,

I enclose the completed questionnaire, on behalf of Pilkington Glass Ltd, a subsidiary of the Pilkington Brothers Group.

We found the questions very interesting, and wish you luck with the rest of your research. We would very much like a summary of the findings when they have been completed.

Yours sincerely,

*P.P. Richard Holt*

Ian Marks  
Planning Manager.

Registered Office  
Prescot Road St Helens  
WA10 3TT  
Registered in England  
Company Number 1417048

## APPENDIX III

### Section III a Case study correspondence



Management Division  
Department of Accounting  
and Management  
Armstrong Building  
The University  
Newcastle upon Tyne NE1 7RU

Sample of initial letter sent  
to all potential case study  
companies.

Dear Peter,

RESEARCH PROGRAMME INTO THE MANAGEMENT OF INTANGIBLE RESOURCES

I am collaborating with a small number of leading firms in the North East of England, and I am writing to ask if you will also participate in my study.

I have developed an analysis technique which identifies, and aids in the management of, the sources of competitive advantage in a business. My work has developed on from that of Coyne, and I enclose a copy of one of his articles which will give you some background information.

My technique analyses the factors which produce competitive advantage by assessing the relative contribution which each factor makes. It then goes on to examine the sustainability of the advantage, and the management of the key feedstock resources.

I will be delighted if you can help me to validate this approach. At the same time I am sure that the exercise will provide you with an alternative approach to identifying the source of your business' competitive advantage.

I would need one hour with you to gather information, and a further hour at a later date to conclude the exercise. Any information which you supply will of course be treated in the strictest confidence.

I will call your secretary in a few days' time to see if you are able to help.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Dick', which is a common nickname for Richard.

Richard Hall.  
Lecturer in Business Strategy.



Management Division  
Department of Accounting  
and Management  
Armstrong Building  
The University  
Newcastle upon Tyne NE1 7RU

APPENDIX III

Sample of second letter sent  
to those companies agreeing  
to take part in the case study stage.

Dear Peter,

RESEARCH PROGRAMME INTO THE MANAGEMENT OF INTANGIBLE RESOURCES

Thank you for agreeing to help me with this programme. I am looking forward to meeting with you on Thursday 25 April at 10.00 a.m.

An outline of the ground I would like to cover when we meet is given on the enclosed form. This is a draft form and may need revision to suit the needs of Nissan, however if you have an opportunity to look at it before we meet I would be grateful.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Richard Hall'.

Richard Hall.

THE MANAGEMENT OF INTANGIBLE RESOURCES

COMPETITIVE ADVANTAGE (C.A.)

1.THE CONTRIBUTION OF THE KEY PRODUCT ATTRIBUTES				
Price	Quality	Functionality	Aesthetics	Availability
...%	...%	...%	...%	...%
Image	After Sales Service	Other (1)	Other (2)	Total
...%	...%	...%	...%	100%

2.	REGULATORY	POSITIONAL	FUNCTIONAL	CULTURAL
D I F F E R E N T I A L S	Protectable in law.	Due to previous endeavour.	Due to skill & experience.	Aptitudes of the Organisation.
	(1) .... % contribution to C.A	(2) .... % contribution to C.A.	(3) .... % contribution to C.A.	(4) .... % contribution to C.A.
	Note : (1) + (2) + (3) + (4) = 100 %			

3.	%	%	%	%
I N T A N G I B L E	Trade Secrets ...	Databases ...	Know-how of:	Perception of:
R E S O U R C E S	Contracts ...	Reputation of Prod. ...	Employees ...	Quality ...
	Licences ...	Reputation of Co. ...	Suppliers ...	Service ...
	Patents ...	Networks ...	Distribs. ...	Ability to manage change ...
	Copyright ...	Other(3) ...	Other(5) ...	Other(7) ...
	Trademarks ...	Other(4) ...	Other(6) ...	Other(8) ...
	Regd. designs. ...			
TOTALS	100%	100%	100%	100%

#### 4. THE SUSTAINABILITY OF COMPETITIVE ADVANTAGE

4.1 How easy is it for the competition to match the product/delivery system attributes which produce the competitive advantage :

	Easy	Medium Difficulty	Difficult
Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functionality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After Sales Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.2 How sustainable are the capability differentials ? I.E. how durable is the superiority of the key intangible resources ?

Key Intangible Resources*	Low	Medium	High
4.2.1 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.2 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.3 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.4 _____ etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* Identified from sections 2 & 3.

#### 5. THE MANAGEMENT OF THE KEY INTANGIBLE RESOURCES

How should the key intangible resources be managed with respect to : recognition, protection, exploitation and enhancement ?

### APPENDIX III

Section III b Feedback received from executives  
participating in the case studies.



R Hall  
University of Newcastle upon Tyne  
Management Division  
Department of Accounting & Management  
Armstrong Building  
The University  
Newcastle upon Tyne NE1 7RY

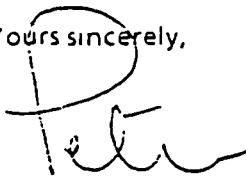
Dear Dick,

Thank you for sending me the questionnaire and your final report.

I must say that I do have some difficulty with the approach and I am not sure how such information can be effectively used by organisations such as Nissan. If it is to be progressed in any way I would suggest that you review your original questionnaire based on comments received and then try it out again on a different group. Presumably your intention will be to produce an aid to analysis but I think that companies will first have to be convinced that such an analysis is worth making.

Best wishes.

Yours sincerely,



Peter D Wickens  
Director of Personnel & Information Systems

PDW/lb/708

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QUESTIONNAIRE REGARDING THE ANALYSIS OF INTANGIBLE RESOURCES

Please tick appropriate boxe(s)

ASSESSMENT OF THE APPROACH AS AN ANALYSIS TECHNIQUE :

Identified new material

☐

Identified a new perspective for material  
already known :

☒

Did not contribute to a better  
understanding of the business

☐

Any other comment :

AS A MEANS OF FACILITATING COMMUNICATION

A very useful aid

☐

A useful aid

☒

Of no use

☐

Any other comment :

# QUESTIONNAIRE REGARDING THE ANALYSIS OF INTANGIBLE RESOURCES

Please tick appropriate boxe(s)

## ASSESSMENT OF THE APPROACH AS AN ANALYSIS TECHNIQUE :

Identified new material

☐

Identified a new perspective for material already known,

☒

Did not contribute to a better understanding of the business

☐

Any other comment :

## AS A MEANS OF FACILITATING COMMUNICATION

A very useful aid

☐

A useful aid

☒

Of no use

☐

Any other comment :

QUESTIONNAIRE REGARDING THE ANALYSIS OF INTANGIBLE RESOURCES

Please tick appropriate box(es)

ASSESSMENT OF THE APPROACH AS AN ANALYSIS TECHNIQUE :

Identified new material ☐

Identified a new perspective for material already known : ☒

Did not contribute to a better understanding of the business ☐

Any other comment :

AS A MEANS OF FACILITATING COMMUNICATION

A very useful aid ☐

A useful aid ☒

Of no use ☐

Any other comment :

## QUESTIONNAIRE REGARDING THE ANALYSIS OF INTANGIBLE RESOURCES

Please tick appropriate boxe(s)

## ASSESSMENT OF THE APPROACH AS AN ANALYSIS TECHNIQUE :

Identified new material ☐Identified a new perspective for material  
already known ☒Did not contribute to a better  
understanding of the business ☐

y other comment :

*The new perspective did not add any new dimension  
to the business strategy. It was interesting and  
enjoyable!*

## AS A MEANS OF FACILITATING COMMUNICATION

A very useful aid ☐A useful aid ☐Of no use ☐

Any other comment :

QUESTIONNAIRE REGARDING THE ANALYSIS OF INTANGIBLE RESOURCES

Please tick appropriate boxe(s)

ASSESSMENT OF THE APPROACH AS AN ANALYSIS TECHNIQUE :

Identified new material ☐

Identified a new perspective for material  
already known : ☒

Did not contribute to a better  
understanding of the business ☐

Any other comment :

AS A MEANS OF FACILITATING COMMUNICATION

A very useful aid ☐

A useful aid ☒

Of no use ☐

Any other comment :

Suspect for retail distribution sector  
that the weighting of the survey would give  
very different results to that of manufacturing  
due to the already high perception of customer care etc  
It may be worth extending the survey in a modified  
form within the service sector ?

Monte

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